

Client Computing Devices - Empowering People to Achieve their Business

Innovations and products

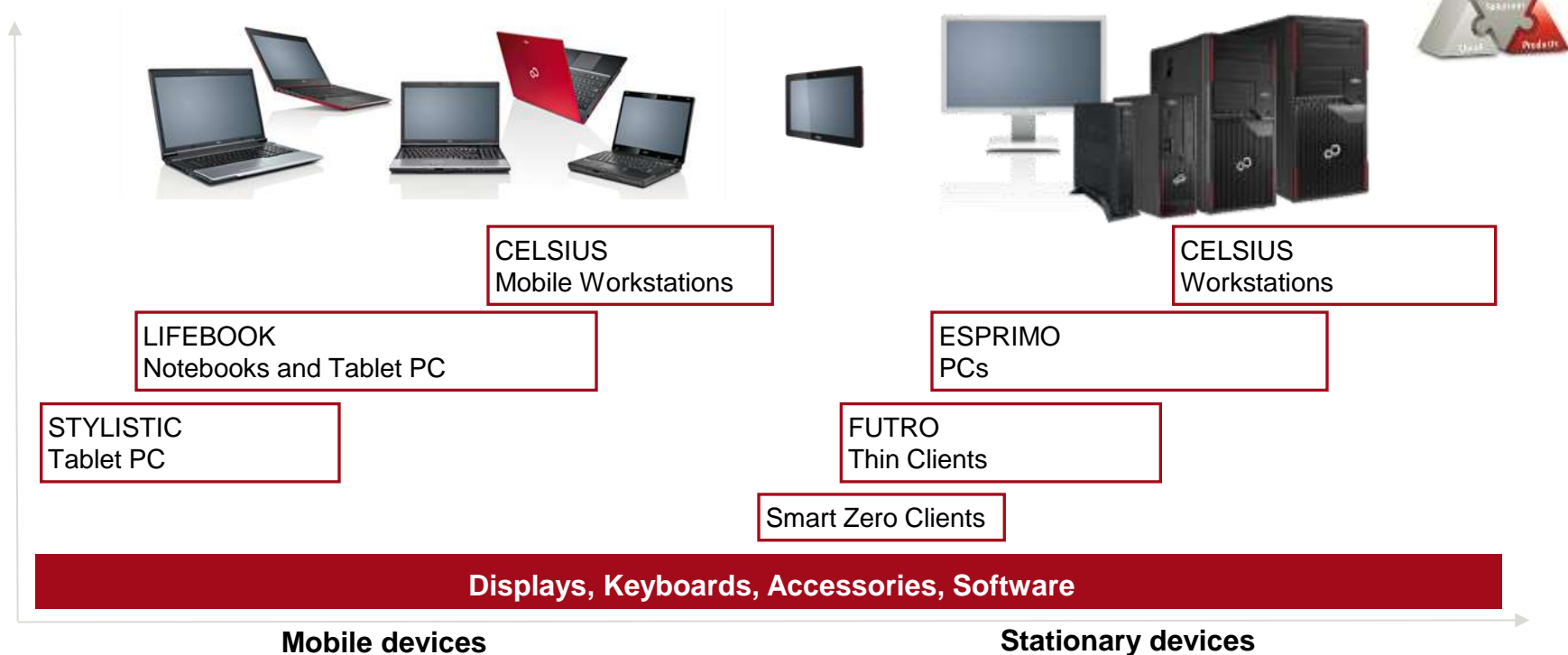
Plamen Tzankov

*Reseller Partner Account Manager,
Fujitsu Bulgaria*

The Workplace Systems Portfolio



- A unique choice of world-class computer technology



Variety of Innovations across the WPS Portfolio



Fujitsu STYLISTIC Q704

Semi-ruggedized, full performance 31.8 cm (12.5-inch) tablet PC supporting dual performance mode and a battery runtime of up to 16 hours



Fujitsu LIFEBOOK S904

Unlimited productivity with 24 hours on a Super High Resolution display



Fujitsu Ultrabooks™

Industry's first Ultrabook™ designed from the ground up for business professionals, worlds slimmest 14-inch notebook, 15.5mm



0-Watt AC Adapter

Intelligent charging, adapter cuts off power supply when notebook is in off-mode



0-Watt GraphicsTechnology

Supported by ESPRIMO and CELSIUS with dedicated graphics card - reduced energy consumption due to automatic deactivation of graphics card



Erase Disk Functionality

Supported by Fujitsu ESPRIMO C/E/P720, Q/E/P920 and CELSIUS workstations. Delete HDDs without any chance of data misuse



Fujitsu ESPRIMO Q520/Q920

Fully featured mini PC with integrated power supply and VESA mount. Low Power Active Mode provides businesses with a wide range of new usage scenarios



Unique product concept – X Line

Common family design of PC, Thin Client or Display for homogenous office environment. Supports "must have" office computing requirements of tomorrow inc. touch screen option



Fujitsu CELSIUS C620

The only 1U rack workstation in the market. Highest data security and flexible remote access with FUTRO L420/L620.



ESPRIMO PC Highlights



Reshape the workplace with ...

ESPRIMO PCs

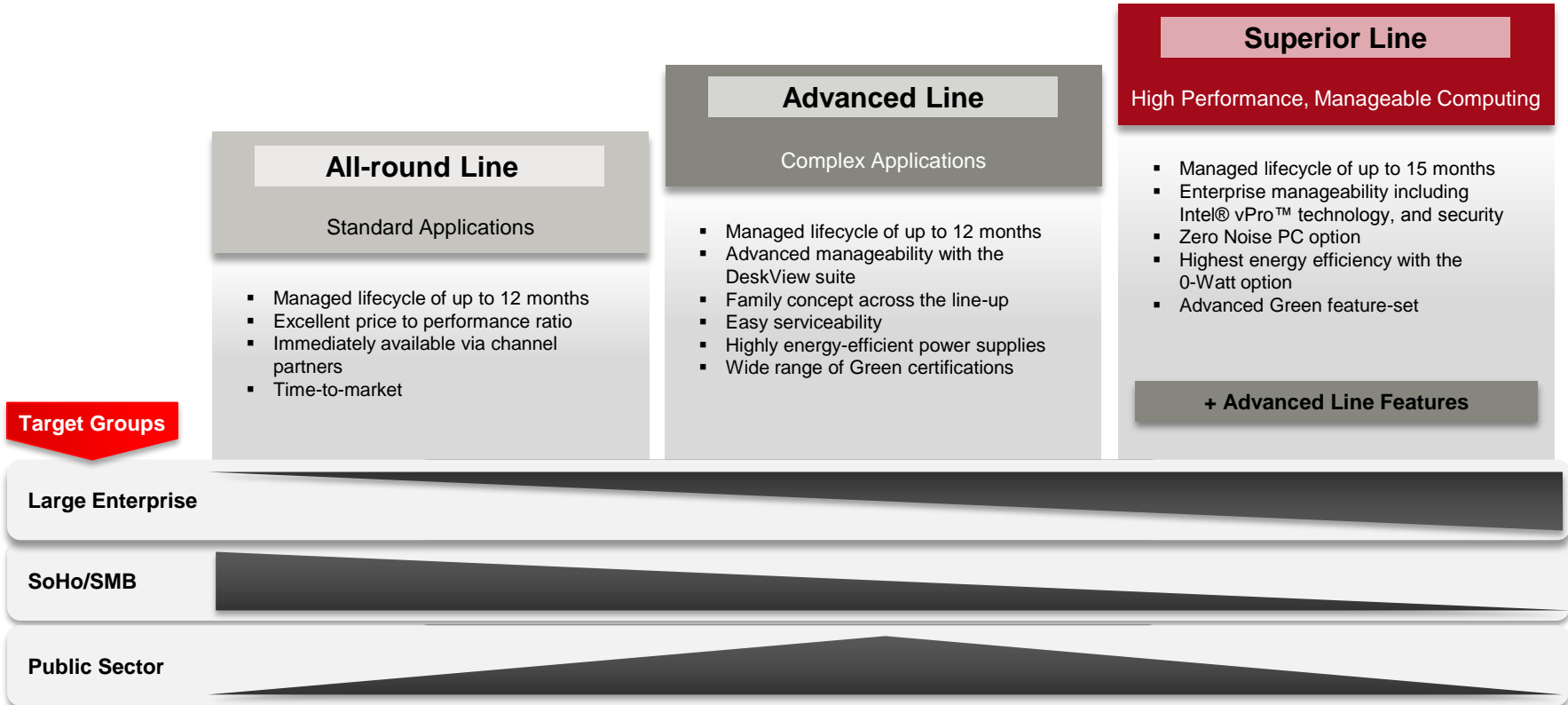
- High quality ESPRIMO PCs and mainboards made in Germany
- Lower evaluation cost with family concept across different form factors
 - From industrial design, BIOS, front connector board to software load across different form factors
- More than 20 years of experience developing innovative PCs:
 - First green PC: SCENIC S Green PC (2003)
 - First to introduce Mini PCs in corporate business (2006)
 - First PC with 94% energy efficient power supplies (2011)
 - Unique, uniformed product concept supporting 3 technologies in one design (2012)

Optimize roll-out costs and simplify the installation of new systems with **Fujitsu's customizing solutions**

Much more than a PC

- 0-Watt GraphicsTechnology
 - graphics card being deactivated 80 % of daily working hours results in 28 kWh energy savings p.a./system
- 0-Watt technology
 - Fujitsu's unique innovation to reduce real costs by 40% compared with a four years old system
- Erase Disk Functionality
 - Delete hard disk drive without any chance to recover and misuse data
 - BIOS integrated -> no operating system or external media needed
- Zero Noise
 - Fan stops under idle and normal office conditions
- FastOn
 - Cutting down desktop PC boot times by two thirds, super fast access within 13 seconds
- Low Power Active Mode
 - Low Power Active Mode for instant availability, ideal for communications applications like telephony or video conferencing

Segmentation of FUJITSU PC ESPRIMO



Portfolio ESPRIMO PCs



All-round Line

Standard Applications



ESPRIMO Q520

- Mini PC (< 2 liters)
- Horizontal and vertical operation
- Lowest noise and energy consumption
- Lifecycle up to **12 months**
- Chipset – Intel® H81

ESPRIMO A525-L

- Thin PC
- Essential performance with focus on task workers
- Compact design enables tidy workplace
- Lowest noise and energy consumption
- Lifecycle up to **24 months**
- Chipset - AMD Embedded G-Series SOC

ESPRIMO E/P420

- Small form factor / Microtower
- Flexible configurations
- Lifecycle up to **12 months**
- Chipset – Intel® H81

ESPRIMO E/P520

- Small form factor / Microtower
- Flexible configurations
- Lifecycle up to **12 months**
- Chipset – Intel® B85

Advanced Line

Complex Applications



ESPRIMO C720

- Ultra small form factor (7.4 liters)
- Intel® Standard Manageability
- 2 powered serial ports
- Up to 90% energy efficient PSU
- Lifecycle up to **15 months**
- Chipset – Intel® Q85

ESPRIMO E/P720

- Small form factor / Microtower
- Intel® Standard Manageability
- Up to 92% energy efficient PSU
- Lifecycle up to **15 months**
- Chipset – Intel® Q85



Superior Line

High Performance, Manageable Computing



ESPRIMO Q920

- Mini PC (< 2 liters)
- Intel® vPro™ technology
- 90% energy efficient & integrated supply
- Lowest noise and energy consumption
- Integrated VESA mounting
- Lifecycle up to **18 months**
- Chipset – Intel® Q87



ESPRIMO C910-L/ P910-L

- Ultra small form factor / Microtower
- Intel® vPro™ technology
- 90% energy efficient & integrated supply
- Lowest noise and energy consumption
- Supports extended usage scenarios, optimized for 24/7 operations
- Microsoft® Windows® XP driver support
- Lifecycle up to **24 months**
- Chipset – Intel® Q77

ESPRIMO X913(T)/ X923(T)

- All-in-one
- Intel® vPro™ technology
- 90% energy efficient & integrated power supply
- Lowest noise and energy consumption
- Touch option
- Integrated sensors option
- 58.4 cm (23-inch) widescreen IPS panel (1920 x 1080)
- Lifecycle up to **15 month**
- Chipset – Intel® Q77/Q87



ESPRIMO E/P920

- Small form factor / Microtower
- Intel® vPro™ technology
- Up to 94% energy efficient power supplies
- 0-Watt functionality (option)
- Zero Noise (option)
- Lifecycle up to **18 months**
- Chipset – Intel® Q87

FUJITSU PC ESPRIMO X923/ X923-T

New

FUJITSU

Advanced ergonomics providing a new, enhanced user experience.

FUJITSU PC ESPRIMO X923/ X923-T

- Clean and modern desk environment - ultra-slim 58.4 cm (23-inch) display saves desk space
- Low Power Active Mode provides businesses with a wide range of new usage scenarios
- Innovative features integrated: proximity sensor for auto power on/-off, face recognition for logging onto OS easily and securely
- Adjustable touch display enables fully flat working position

Strengths

- **4th generation Intel® Core™ vPro™** processor and latest Intel® chipset
- **Advanced ergonomics and user experience** - Supporting versatile touch applications
- **Silent PC** – fan rotates at lowest possible speed for a peaceful working experience
- **Lowest power consumption** - Saves up to 50% more energy per year than a standard PC
- **Enhanced security to satisfy enterprise needs** – Integrated sensors, TPM, SmartCard reader and EraseDisk option
- **Manageability** – DeskView manageability combined with Intel® vPro™ technology
- **Enhanced multi-media module** – ready for UC&C



Fujitsu ESPRIMO X923/ X923-T

New

FUJITSU

Evolutionary PC for the Modern Office

Strength:

- **Low Power Active Mode** – Supporting new usage scenarios like UC&C
- **Clean desk environment** – Desk-space saving features
- **Advanced ergonomics and user experience** –
 - Flexible working position optimized for touch panel option
 - Adjustable display allows full flat working position
 - Silent system
 - Automated log on/off option
- **Enhanced security to satisfy enterprise needs** – Integrated sensors, TPM. EraseDisk securely wipes the hard drive
- **Future proof technology** - Based on latest 4th generation Intel® processor technology, Microsoft Windows® 8.1 pre-installed and usage of multi-touch function (option)



Technology:

- Up to 4th generation Intel® Core™ i7 vPro™ quad core processor support, Intel® HD4600 graphics
- 58.4cm (23-inch) frameless LED display (16:9 format)
- Display adjustable for horizontal and vertical working position (anti-glare touch screen optional)

Enhanced Multi-media Module

New

FUJITSU

Prepared for future usage scenarios like UC&C environments!

- Adjustable HD webcam - easy to use collaboration tool
- High quality mono microphone - supports video conferencing with clear audio
- Busylight - displays the current Lync presence state
- Presence sensor - detects the movement and body outline of anyone sitting within the viewing range of the system
- Face recognition - automatically identifies or verifies a person from a digital image - more convenient login to your system

Integrated Busylight



Higher convenience and better usability!

FUJITSU PC ESPRIMO Q920



Professional performance and high-end manageability in a stylish PC.

FUJITSU PC ESPRIMO Q920

- Fully fledged Mini PC based on latest Intel® Desktop technology
- Lowest energy consumption with a highly efficient onboard power supply and an extremely quiet system
- Full integration into the Fujitsu ESPRIMO PC family
- Low Power Active Mode for instant availability, ideal for communications applications like telephony or video conferencing

Strengths

- **4th generation** Intel® Core™ i7 vPro™ processor and latest Intel® chipset
- **Exclusive** and **space-saving design** – with a volume of only 1.9 liters it is an eye-catcher any time and anywhere
- **SSD caching option** – accelerates the user experience
- **Lowest power** consumption
 - Needs only 7 watts in idle-mode
 - In **Low Power Active Mode** - only 4 Watts
- **Zero Noise PC** – whisper-quiet operation in the office environment
- **Integrated VESA mount** – for a tidier workspace



FUJITSU PC ESPRIMO A525-L

New

FUJITSU

Combines Essential Performance with Longevity.

FUJITSU PC ESPRIMO A525-L

- Fully fledged Thin PC based on standard AMD® Desktop technology
- Low power consumption and silent operations
- DeskView Manageability to offload customers IT administration
- Long lifecycle up to 24 months lowers customers' TCO

Strengths

- **AMD®** GX-217GA processor and AMD® Radeon™ HD8280E graphics
- **Exclusive and space-saving design** – with a volume of only 2.4 liter it is an eye-catcher any time and anywhere
- **Low power** consumption – needs only ~5 watts in idle-mode
- **Silent PC** – whisper-quiet operation in the office environment
- **Optional VESA mount** – for a tidier workspace



Innovations & Highlights

Always Available Office PC



Always Available Office PC by FUJITSU – Low Power Active Mode

- 1 Combines availability with energy saving**
The PC looks like it is “off” but background application tasks can still run in the new Low Power Active Mode. When the PC is not processing applications, only 4 Watts of energy is needed when entering this innovative operation mode.
- 2 Provides businesses with a wide range of new usage scenarios**
The desktop is instantly available as access device for unified communications applications like telephony or video conferencing. Email is always synchronized, virus scans can run at night, administrators have always in-band access to the PC.
- 3 Innovative technology, easy-to-use software**
FUJITSU software allows simple configuration of the Low Power Active Mode.
- 4 Always Available FUJITSU ESPRIMO PCs**
Feature supported by FUJITSU ESPRIMO Q520, ESPRIMO Q920, ESPRIMO X923, ESPRIMO X932-T, ESPRIMO A525-L.



Always available office PCs boost productivity!

Super Fast Desktop Access



Innovations by **Fujitsu** – FastOn enabled ESPRIMO PCs

- 1 Cuts down desktop PC boot times by two thirds**
super fast access to your desktop
- 2 FastOn optimized Fujitsu ESPRIMO PCs**
optimized FastOn ESPRIMO PCs feature SSD drives
and a choice of Intel® Core™ i5 and / or i7 processors
- 3 Major Fujitsu ESPRIMO systems come with FastOn enabled**
feature BIOS optimization and a sophisticated motherboard
- 4 Providing business with a competitive edge**
FastOn can lead to cumulative savings of more than 10 working days per year
from a company network of 100 desktop PCs*



FastOn enabled ESPRIMO PCs boost productivity!

*FastOn (13 sec) vs. standard boot (45 sec), 250 working days/year & 26 additional SW-patches

Sophisticated Energy Management



Unique innovations by **Fujitsu** – world's first 0-Watt PC

- 1** **ESPRIMO E/P920 PCs support Fujitsu's patented 0-Watt technology**
true energy saving when the system is switched off (ACPI S5)
- 2** **Highly efficient power supplies –**
energy efficiency of up to 94% enables maximum savings
- 3** **Switched monitor outlet –**
higher savings – reduces displays' energy consumption by up to 10% per year
- 4** **Manageability via DeskView –**
updates your platforms regularly. Adjustable time frame to update your system remotely



Stop wasting energy and natural resources!

0-Watt GraphicsTechnology

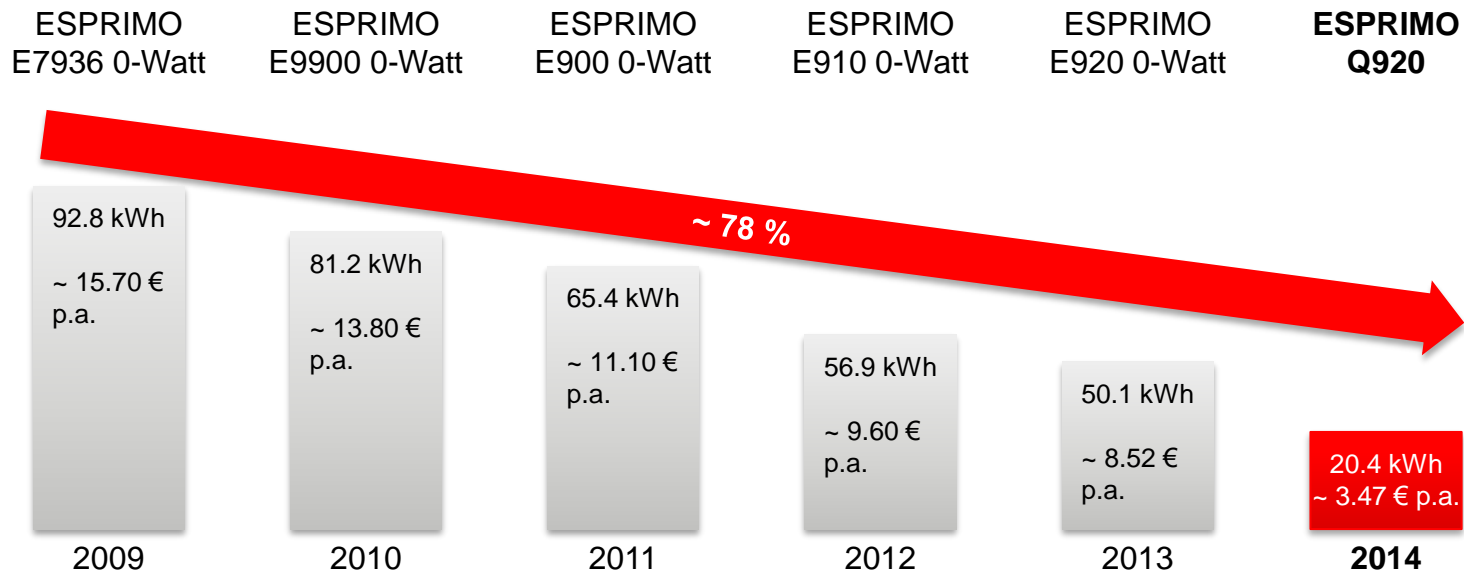
Unique innovations by **Fujitsu** – world's first 0-Watt PC

- 1 Impact of 0-Watt GraphicsTechnology**
reduced energy consumption and noise emissions due to automatic deactivation of plug-in graphic cards and use of the Intel® processor's GPU
- 2 Maintains your system's performance**
energy efficiency without loss of performance. In case of heavy workload, the graphics card is activated automatically, with no latency or screen flickering
- 3 Mainstream systems supported**
Fujitsu ESPRIMO C720, E720, P720, E920, P920 PCs
combined with NVIDIA GeForce GT630 0-Watt graphics card
- 4 Impressive savings in energy consumption**
graphics card being deactivated for 80% of daily working hours results in energy savings of 28 kWh p.a./system



Maximum energy savings and productivity gain!

Technology Reduces Your Energy Bill



 Fujitsu's patented 0-Watt technology enables significant savings!

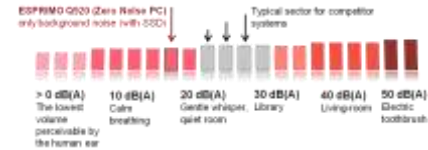
* <http://www.fujitsu.com/fts/products/computing/pc/desktops/datasheet-finder/> (energy white paper, 0.17 € / kWh)

Fujitsu Silences Your Office PC



Unique innovations by **Fujitsu** – Zero Noise technology

- 1 Silent systems**
Fujitsu ESPRIMO Q510, Q920, E920 & P920 with SSD drive
- 2 Pleasant working environment**
fan is motionless during standard operation
- 3 Your contribution to environmental protection**
patented function for 0-Watt power consumption in off mode (Fujitsu ESPRIMO E920/P920)
- 4 Embedded fully in BIOS & mainboard**
no need for any user action or software and drivers



Enhanced ergonomics enables higher productivity

Fujitsu EraseDisk Technology



EraseDisk by **Fujitsu** – re-use your hard disk drives

- 1 Unique Fujitsu feature in the UEFI-BIOS**
wipes your hard disk drive safely without additional tools and generates a report
- 2 Avoid losing critical data**
benefit from maximum protection when scrapping, selling or moving systems
- 3 Protect the environment**
re-use your hard disk drives instead of destroying them physically - save millions of hard disk drives
- 4 High level of security**
EraseDisk offers four deletion options with up to 35 deletion passes



No more scrapping of hard disk drives

True Family Concept



True Family Concept by Fujitsu – identical components

- 1 True family concept covers mainstream platform**
Fujitsu ESPRIMO E720/P720 and Fujitsu ESPRIMO E920/P920 PCs
- 2 Different form factor of housing**
microtower and small form factor offer different levels of expandability
- 3 Microtower and small form factor with identical**
power supply, mainboard, BIOS, SW-load, front connector board



 Lower effort for qualification of new PCs on customer side

Easy-Access Cabinet



Easy-Access by **Fujitsu** – minimizes downtime

- 1 Service-friendly & easy-access cabinet**
EasyFix for screwless attachment of add-on cards. EasyChange: HDD/ODD can be changed without tools
- 2 Benefit from easy serviceability**
less administration effort, short downtime in case of system failure, easy and fast upgrade of your PC
- 3 Lower your TCO (Total Cost of Ownership)**
save valuable resources, which can be used for accomplishing more important tasks



 **Lower effort for qualification of new PCs on customer side**

FUTRO Thin Clients Highlights



Reshape the workplace with ...

FUTRO Thin Clients

- Perfect for Server Based Computing or Virtual Desktop Infrastructure (VDI)
- Entry to high-expandable thin client solutions
- Open platform for IT infrastructures and choice between multiple operating systems
- Excellent software and device management solution
 - eLux™ / Scout Enterprise – best-in-class solution stack
 - Proven by the world's largest thin client installation
- Less cabling with PoE option for a clutter-free desktop



One size
does not fit
all –
**Fujitsu's
VDI offering**
answers all
user needs

Fujitsu Smart Zero Clients

- Ideal front-end devices for virtual desktop infrastructure (VDI)
 - Hardware-based protocol acceleration
 - Ideal for Citrix® HDX, VMware® PCoIP and Microsoft® RDP
- Most efficient roll-out - easy to deploy
 - User data and processing power is on the server
 - Administration tasks performed centrally
- Significantly lower energy consumption compared to traditional PC



FUTRO Thin Clients – For Common Server Environments



BS2000
IBM OS/390 ,
AS/400
VAX, Tandem (NSK)
HP-3000, DG



NOMACHINE



vmware



Firefox



Mainframe



Windows
Terminal Server



Unix
Terminal Server



VDI

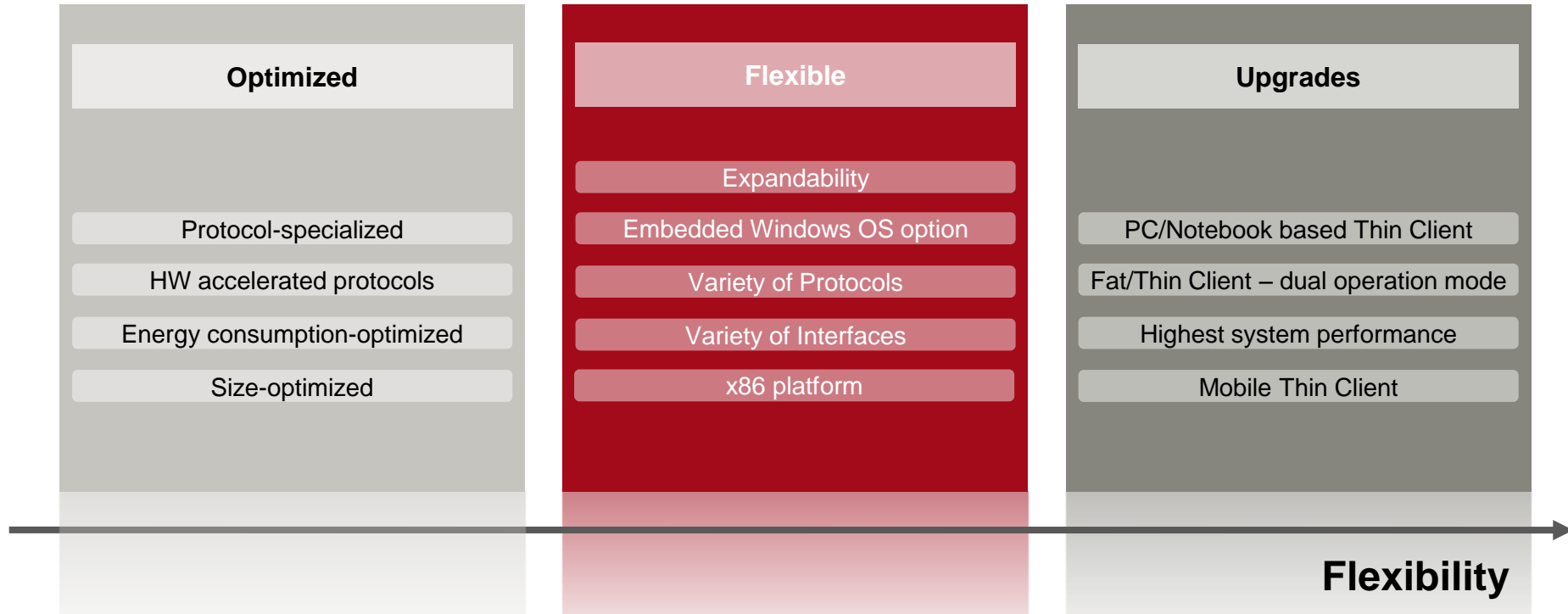


Internet apps



SAP

Positioning FUTRO Thin Clients



Thin Client Portfolio for SBC and VDI



Optimized

Smart access with Smart Zero Clients

vmware®

vmware®

CITRIX®



FUTRO L420

FUTRO L620

FUTRO Z220

Flexible

Ideal for any user profile

CITRIX®

CITRIX®

CITRIX®

CITRIX®

vmware®
Microsoft

vmware®
Microsoft

vmware®
Microsoft

vmware®
Microsoft



FUTRO A300
FUTRO S520

FUTRO S700
FUTRO S720

FUTRO S900
FUTRO S920

FUTRO
X913 / X913-T

Upgrades

Matching individual needs

CITRIX®

CITRIX®

vmware®
Microsoft

vmware®
Microsoft



Thin Client Kit
ESPRIMO C/E

Thin Client Kit
LIFEBOOK S/E

Mobility

Expandability

Scout Manageability

Server-Based Computing (SBC)

Virtual Desktop Infrastructure (VDI)

Thin Clients Product Portfolio



Optimized

System on Chip basis



FUTRO L420 / L620

- TERA 2321/2140
- PCoIP
- Dual monitoring w/ FUTRO L420
- Quad monitoring w/ FUTRO L620
- 4 USB
- Remote CELSIUS Access option

FUTRO Z220

- ARM® architecture
- HDX
- Dual monitoring
- 4 USB
- WLAN option

▪ Teradici™ Firmware

▪ eLux™ RT

▪ PCoIP Mgmt. Console

▪ Scout Enterprise

Flexible

X86 basis



FUTRO S520

- Entry system
- HDX, PCoIP, RDP/RFX
- Dual monitoring
- Dual Core (1 GHz)
- 4 USB (2 x 3.0)
- WLAN option
- PS/2 KB Power On

▪ eLux™ RP

▪ Windows® Embedded Standard 7

▪ Scout Enterprise

▪ SCCM

FUTRO S720

- Mainstream system
- HDX, PCoIP, RDP/RFX
- Dual monitoring
- Dual Core (1.65 GHz)
- 6 USB (2 x 3.0), 1 COM
- WLAN option
- PoE & TPM option
- PS/2 KB Power On

▪ eLux™ RP

▪ Windows® Embedded Standard 7

▪ Scout Enterprise

▪ SCCM

FUTRO S920

- Multi talent
- HDX, PCoIP, RDP/RFX
- Dual monitoring (Quad as option)
- Quad core option
- 6 USB (2 x 3.0), 2 COM
- SmartCard reader
- WLAN option
- PoE & TPM option
- PCIe slot
- PS/2 KB Power On

▪ eLux™ RP

▪ Windows® Embedded Standard 7

▪ Scout Enterprise

▪ SCCM



FUTRO X913 / X913-T

- All-in-one Thin Client
- HDX, PCoIP, RDP/RFX
- 58.4 cm (23-inch) IPS
- Touch panel (-T)
- 2nd display support
- Dual core option
- 6 USB, PS/2, 1 COM
- SmartCard reader
- WLAN option
- PoE option
- PS/2 KB Power On

▪ eLux™ RP

▪ Windows® Embedded Standard 7

▪ Scout Enterprise

▪ SCCM

Upgrades

PC & Notebook basis



Thin Client Kit ESPRIMO C/E7xx*

- PC based Thin Client
- HDX, PCoIP, RDP/RFX
- PC performance and expandability
- Available with HDD, SSD or mSATA module

* Kits available on project request

▪ eLux™ RP

▪ Windows® Embedded Standard 7

▪ Scout Enterprise

▪ SCCM

Thin Client Kit LIFEBOOK S/E752

- Mobile Thin Client
- HDX, PCoIP, RDP/RFX
- Mobility
- UMTS and WLAN
- Available with HDD or SSD

▪ Windows® Embedded Standard 7

▪ Scout Enterprise

▪ SCCM

Management Thin Clients



SCOUT Enterprise - for all Thin Clients w/ eLux and Windows Embedded Standard 7

eLux RT

FUTRO Z220



eLux RP

FUTRO A300
FUTRO S520



FUTRO S700
FUTRO S720



FUTRO S900
FUTRO S920



FUTRO X913/-T



Thin Client Kit
ESPRIMO



WES7

FUTRO S520



FUTRO S700
FUTRO S720



FUTRO S900
FUTRO S920



FUTRO X913/-T



Thin Client Kit
ESPRIMO



Thin Client Kit
LIFEBOOK



SCCM - for all Thin Clients w/ Windows Embedded Standard 7

WES7

FUTRO S520



FUTRO S700
FUTRO S720



FUTRO S900
FUTRO S920



FUTRO X913/-T



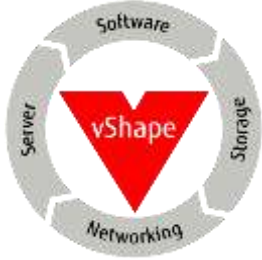
Thin Client Kit
ESPRIMO



Thin Client Kit
LIFEBOOK



vShape 250 for Desktops (ETERNUS)



vShape for 250 Desktops VM's

- ETERNUS DX100 S3 with 5.3 TB usable storage including 2x SSD for performance
- **Three** Fujitsu PRIMERGY RX200 S8 servers each with two CPU and 256 GB memory
- Third server ensures **High Availability**
- Two Brocade 6505 FC switches
- VMware Horizon View Premier for 250 desktops
- Freedom of Choice for the right Client to access the VDI Pool

Thin Client FUTRO X913 / X913-T



More Than Just a Thin Client

Strengths:

- **Pure ergonomics** – Comfortable touch display in vertical or horizontal positions for easy handling (FUTRO X913-T). Space-saving and single-cable design for a clean desk environment
- **Ultimate connectivity** – WLAN, optional Power-over-Ethernet
- **Cut your energy bill** – Fujitsu's unique presence sensor significantly reduces energy consumption. It ensures automatic stand-by if the user leaves their desk and automatic wake-up when they return
- **Secure working** – Optimized for Server-Based Computing and Virtual Desktop Infrastructures
- **Efficient administration** – Best-in-class Scout Enterprise management software reduces administration and management efforts



Technology:

- **Display integrated** – 58.4 cm (23-inch) frameless Full HD, LED display (16:9 format) with IPS panel
- **Leading processors** – AMD G-Series G-T44R & T40N dual-core
- **Choice of operating systems** – eLux™ RP or Windows® Embedded Standard 7
- **High reliability** – with mSATA cards in SLC technology

Mobile Devices Highlights

Reshape the workplace with ...

LIFEBOOK Notebooks

- German precision combined with Japanese quality
- 30 years of innovation and of IT experience
- Eco friendly, reducing energy with 0-Watt function
- Real mobile working supported by modular bay concept
 - Up to 24hrs battery life
 - Patented bay projector
- New form factors emerge, slim and responsive Ultrabooks™
 - Slimmest 14-inch Ultrabook™, only 15.5 mm
 - Revolutionary, high resolution display (3200 x 1800)



Fujitsu's mobile devices for dynamic work styles – in and outside the office

Enabling efficient work styles and user experience

Fujitsu STYLISTIC Tablet PCs

- 2-in-1 devices
 - Unique 13-inch classic convertible Ultrabook™, less than 1.5 kg
 - Hybrid tablet with attachable keyboard for content creation and usability in the office
- Business tablets
 - Supporting enterprise-class security and pen and touch input
- Specialized tablets
 - Semi-ruggedized: water- and dustproof
 - Choice of Windows 8.1 or Android operating system
 - 'Shell' options to meet individual needs in verticals



More than 30 Years of Experience



1981 - Fujitsu's 1st Personal Computer



FACOM 9450, Japan

1990 - World's 1st hand-held, one-pound, IBM/PC-XT-compatible computer



Poqet PC, US

1994 - World's 1st PC with TV features



FM TOWNS II
Fresh-TV, Japan

2004 - World's 1st 2 spindle convertible tablet PC



LIFEBOOK T4010D

2006 - World's thinnest 12-inch notebook (19.9mm)



LIFEBOOK Q series

2007 - Lightest 14-inch notebook on the market



LIFEBOOK S7010

2009 - FLEPia – first color e-book reader



FLEPia

2010 - LIFEBOOK E780 with Palm Vein Authentication



LIFEBOOK E780

2010 - Teampad 700 – lightest solid-state ruggedized Tablet PC in its class



Teampad 700

2013 - World's thinnest 14-inch notebook



LIFEBOOK U904 Ultrabook™

Technologies at a Glance

0-Watt AC Adapter



Modular Bay



4G/LTE



Port Replicator



Backlit Keyboard



Anytime USB Charge



Magnesium Lid



Slim Design



Segmentation of Fujitsu LIFEBOOK Notebooks



All-round Line

Standard Home and Office Application

- Managed lifecycle of up to 6 months
- Excellent price-/performance ratio
- Immediately available in the channel
- Time-to-market

Advanced Line

Mobile Office for Corporate Demands

- Managed lifecycle of up to 14 months
- Flexible, configurable systems via built4you
- Global availability
- Expandability with modular bay concept and port replicator
- Advanced Green feature-set
- Enterprise manageability including Intel® vPro™ technology and security

Superior Line

Ultimate Computing for Individual Needs

- Elegant and thin design with full functionality
- High-end materials and antibacterial backlit keyboard option
- Elaborate technologies
- Family concept with LIFEBOOK E Line

+ Advanced Line Features

Target Groups

Large Enterprise
/ Public Sector

SoHo/SMB

Portfolio of LIFEBOOK Notebooks



All-round

Standard Home and Office Application



LIFEBOOK A512/ AH502	LIFEBOOK N532	LIFEBOOK A544/ AH544 GFX*	LIFEBOOK AH564
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39.6 cm (15.6-inch) From 2.5 kg	43.9 cm (17.3-inch) From 3.6 kg	39.6 cm (15.6-inch) From 2.4 kg	39.6 cm (15.6-inch) From 2.5 kg
<ul style="list-style-type: none"> Anti-Glare LCD Display Keyboard with NumPad 	<ul style="list-style-type: none"> Discrete graphics Optional 3G/UMTS HD+ or FullHD display Optional 2nd HDD with Raid function and Blu-ray Disc™ drive 	<ul style="list-style-type: none"> Anti-glare LCD Display Keyboard with NumPad *Discrete graphics 	<ul style="list-style-type: none"> Multiple touch HD display Discrete graphics Aluminum cover Keyboard with NumPad

Advanced

Mobile Office for Corporate Demands



LIFEBOOK U554	LIFEBOOK U574	LIFEBOOK P702	LIFEBOOK E782*/E752/ S782*/S752	LIFEBOOK S792*/S762
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33.8 cm (13.3 inch) From 1.5 kg	33.8 cm (13.3-inch) From 1.6 kg	30.7 cm (12.1-inch) From 1.6 kg	35.6 – 39.6 cm (14-15.6-inch) From 2.1 kg	33.8 cm (13.3-inch) From 1.6 kg
<ul style="list-style-type: none"> Slim notebook design Optional 3G/UMTS PXE Boot Optional TPM Module 	<ul style="list-style-type: none"> Stylish and slim Ultrabook™ Anti-glare touchscreen display Optional 3G/UMTS PXE Boot Optional TPM Module 	<ul style="list-style-type: none"> Slim and lightweight design Optional 4G/LTE or 3G/UMTS Long battery runtime Family concept with same components 	<ul style="list-style-type: none"> Outbalanced weight and design Optional 4G/LTE or 3G/UMTS Long battery runtime Family concept with same components and interchangeability Modular Bay * Magnesium lid, Intel® vPro and NumPad 	<ul style="list-style-type: none"> Outstanding light weight in its class Optional 4G/LTE or 3G/UMTS Ultimate Security (incl. ATP*) Family concept with same components and interchangeability Modular Bay * Magnesium lid and Intel® vPro

Superior

Ultimate Computing for Individual Needs



LIFEBOOK E754/E744/ E734	LIFEBOOK U772	LIFEBOOK S904	LIFEBOOK U904
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33.8 – 39.6 cm (13.3-15.6-inch) From 1.6 kg	35.6 cm (14-inch) From 1.4 kg	35.6 cm (13.3-inch) From 1.49 kg	35.6 cm (14-inch) From 1.39 kg
<ul style="list-style-type: none"> Elegant and thin design with full functionality Family concept Ultimate mobility with optional 4G/LTE or 3G/UMTS Modular Bay Ultimate security (incl. ATP) High-end materials: magnesium lid, aluminum palm rest and metal hinges 	<ul style="list-style-type: none"> Stylish and slim Ultrabook™ Optional 4G/LTE or 3G/UMTS Ultimate security (incl. ATP*) Magnesium lid 	<ul style="list-style-type: none"> Super thin shape with full functionality Brilliant display (WQHD) Modular Bay 24hrs battery runtime with full productivity Optional 4G/LTE or 3G/UMTS Ultimate security (incl. ATP*) Magnesium housing 	<ul style="list-style-type: none"> Super-slim and stylish Ultrabook™ Brilliant display (WQHD+) Optional 4G/LTE or 3G/UMTS Ultimate security (incl. ATP*) Magnesium housing

* Depending on model

Fujitsu LIFEBOOK U904 Ultrabook™



Perform with Brilliance –

Ultra-slim design and outstanding mobility in every situation



Highlights:

- **Stylish Design** – Ultra-slim at only 15.5mm and 1.39 kg with a magnesium housing and aluminum palm rest
- **Touch Display**– Frameless 14-inch WQHD+ IGZO display with optional touchscreen for highest picture quality and user experience, also in the business world
- **Maximum Convenience and Security** – optional backlit keyboard, hybrid drives and SSD, fingerprint reader, Full Disk Encryption, Advanced Theft Protection and optional TPM
- **Ultimate Connectivity** – pull-out LAN adapter, port replicator option, WLAN and Bluetooth, optional embedded 4G/LTE or 3G/UTMS

Accessories



Port Replicator



Prestige Pro Case Midi 14



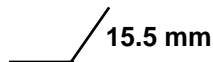
Sleeve Case Ultra



CELVIN Drive M200



VGA Conversion Cable



15.5 mm



35.6 cm (14-inch)



From 1.39 kg

Feature Highlights of LIFEBOOK U904



IGZO panel technology

1

Extremely high resolution

WQHD+ with 3200 x 1800 pixel – for touch and non-touch option

2

Super bright

400 cd/m² (non-touch) and 360/ cd/m² (touch)
enable content display even in sunlight

3

Energy saving

IGZO technology consumes less energy than regular panels



Display brilliance indoor and outdoor

Feature Highlights of LIFEBOOK U904, T904



Pull out LAN connector

1

Convert it

Transform the super-slim Ultrabook into a fully-featured desktop replacement in 2 seconds.

2

No separate adapter

Get high-speed LAN access without an additional adapter.

3

Enhanced Connectivity and Ergonomics

Connect to multiple input devices simultaneously via a port replicator



Convert a super-slim Ultrabook in a desktop replacement

Fujitsu LIFEBOOK S904



Your Stylish, 24 hour Performer

For mobile professionals: combining mobility with no compromise on runtime

Highlights:

- **Stylish Design** – Slim and sleek notebook design with Super High Resolution 2560 x 1440 (WQHD), yet incorporating Fujitsu's famous modular bay concept
- **Superb Mobility** – Light weight of only 1.49 kg, 24 hours runtime with first and second battery, magnesium lid and aluminum palm rest ensuring sturdiness
- **Maximum Convenience and Security** – Touch display or optional anti-glare display for in- and outdoor use, backlit keyboard, Hybrid HDD or SSD options, fingerprint reader, optional TPM, ATP, SmartCard reader and Full Disk Encryption (FDE) as well as multiple options like a 2nd battery for the modular bay
- **Ultimate Connectivity** – WLAN and Bluetooth, optional embedded 4G/LTE or 3G/UTMS, pull-out LAN connector, Port Replicator option



Accessories



Port Replicator



Supreme Case Midi 13



Second Battery



33.8 cm (13.3-inch)



From 1.49 kg

Notebook LIFEBOOK E Line – New Generation



Uncompromising Elegant Design and Functionality

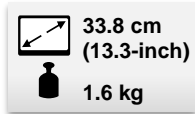
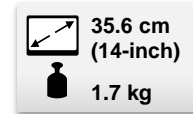
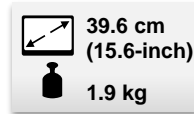
Elegant family of premium notebooks for corporate demands

LIFEBOOK E754, LIFEBOOK E744 and LIFEBOOK E734

Highlights:

- **Family Concept** – Shared components such as port replicator, modular bay elements, and mainboard for a common image deployment
- **Slim and Light High-End Design** – Thin design, weighing only 1.6 kg (13.3-inch), high-value materials such as magnesium lid, aluminum palm rest and strong metal hinges
- **Premium Features** – Optional backlit keyboard, large touchpad and modular bay, Full HD webcam with status LED
- **Ultimate Security** – comprehensive security features including fingerprint sensor and TPM
- **Latest Processor Generation** – 4th generation Intel® Core™ vPro™ processor technology option
- **Globally Available*** – ideal for worldwide operating corporate customers

*except some components



Accessories



Prestige Case Midi 16



Prestige Case Midi 14



Prestige Case Mini 13

Commonly shared across LIFEBOOK E Line:



Bay Projector



2nd Battery
for Modular Bay



Port Replicator

Fujitsu LIFEBOOK E Line



Elegant Design and Functionality without Compromises

Attractive family of premium notebooks *for corporate demands*

LIFEBOOK E753, LIFEBOOK E743 and LIFEBOOK E733

Highlights:

- **Family concept** – Including a 15.6-inch, 14-inch and 13.3-inch notebook, one underlying design concept, common components (AC Adapter, port replicator, modular bay elements), common mainboard with same BIOS, drivers and bit image
- **High-end design** – Slim from 20mm, light weight starting from only 1.7 kg, attractive red elements, high-value material with solid magnesium lid and strong hinges
- **Premium features** – Modular bay, optional 4G/LTE, backlit keyboard, full set of interfaces, SmartCard reader, optional fingerprint sensor, large touchpad



Accessories



Prestige Case Midi 14



Prestige Case Midi 16



Prestige Case Mini 13



From 33.8 cm (13.3-inch)



From 1.7 kg

Comparison current with new LIFEBOOK E Line

	Current LIFEBOOK E Line E753, E743, E733	NEW LIFEBOOK E Line E754, E744, E734
Chipset	Intel® QM77	Intel® QM87 / HM86
Processor	3rd generation Intel® Core™ vPro™ processor technology option	4th generation Intel® Core™ vPro™ processor technology option
HDD Service Door	No	Yes
Port Replicator	Commonly shared*	
Modular Bay Options	Commonly shared - 2nd battery, 2nd HDD, BR-/DVD-Burner, Bay Projector or Weight Saver	
Add. components	-	White keyboard w/o TS, 500GB 7.2k

*Port Replicator compatibility

	LIFEBOOK E7x3	LIFEBOOK E7x4	CELSIUS H730
"old" Port Replicator"	●	●	-
"new" Port Replicator	●	●	●

Product Portfolio – Tablet PCs

Portfolio of LIFEBOOK, STYLISTIC Tablet PCs



2-in-1

Flexible Mobile Office

Business Tablets

For Business and Private Use

Specialized

For Highly Mobilized Roles



**LIFEBOOK
T734**



31.8 cm
(12.5-inch)
From 1.8 kg (tbd)

- Convertible Notebook
- Optional 4G/LTE or 3G/UMTS with GPS
- Ultimate security (incl. ATP*)
- Dual digitizer*
- Anti-glare display
- Ambient Light Sensor
- Modular bay concept
- MIL-STD tested
- Windows 8.1

**LIFEBOOK
T904**



33.8 cm
(13.3-inch)
From 1.5 kg (tbd)

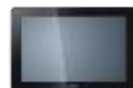
- Convertible Ultrabook™
- Optional 4G/LTE or 3G/UMTS with GPS
- Ultimate security (incl. ATP*)
- Dual digitizer*
- Aluminum housing, magnesium lid
- Super high-resolution WQHD display
- Ambient Light Sensor
- Backlit keyboard
- Windows 8.1

**STYLISTIC
Q702**



29.6 cm
(11.6-inch)
From 850 g

- Hybrid Tablet PC
- Optional 4G/LTE or 3G/UMTS
- GPS support
- Ultimate security (incl. ATP*)
- Dual digitizer
- Ambient Light Sensor
- Windows 8
- Windows 8.1



**STYLISTIC
M532**

25.7 cm
(10.1-inch)
From 560 g

- Stylish Media Tablet
- Multiple touch
- 3G/UMTS and GPS
- VDI-ready
- Secure Corporate Email and Calendar Exchange
- Rich multimedia features, Google apps
- Android 4.0



**STYLISTIC
Q572**

25.7 cm
(10.1-inch)
From 820 g

- Professional Tablet PC
- Multiple touch and pen input
- Anti-glare display
- Optional 3G/UMTS or 4G/LTE
- GPS support
- Ultimate security (incl. ATP*)
- Ambient Light Sensor
- Windows 8



**STYLISTIC
M702**

25.7 cm
(10.1-inch)
From 590 g

- Semi-Ruggedized Tablet
- Multiple Touch
- 4G/LTE, GPS and NFC
- Ultimate security (incl. fingerprint sensor)
- VDI-ready
- Secure Corporate Email and Calendar Exchange
- Water- and dustproof
- Android 4.0



**STYLISTIC
Q584**

25.7 cm
(10.1-inch)
From 640 g

- Semi-Ruggedized Tablet
- Extra bright, with WQXGA resolution
- Multiple touch and pen input
- 4G/LTE, GPS and NFC
- Ultimate security (incl. fingerprint sensor)
- Water- and dustproof
- Shell Concept
- Windows 8.1



**STYLISTIC
Q704**

31.8 cm
(12.5-inch-inch)
From 980 g

- Semi-Ruggedized Tablet
- Extra bright, with Full HD resolution
- Multiple touch and pen input
- 4G/LTE, GPS and NFC
- Ultimate security (incl. fingerprint sensor)
- Dual performance mode for extra long batter runtime
- Water- and dustproof
- Shell Concept
- Windows 8.1

Fujitsu LIFEBOOK T904



Stylish and Flexible Working Made Easy

For frequent travelers and executives:

Combines versatility with outstanding mobility

Highlights:

- **Attractively Reliable Design** – Ultra-thin, with a solid aluminum housing and magnesium lid, combined with our renowned hinge experience, MIL-STD tested with DragonTrail™ glass
- **Flexible Input** – Bi-directional rotatable, 33.8 cm (13.3-inch) WQHD IGZO display with dual digitizer allowing audit-proof pen and touch input, or with the keyboard
- **Ultimate Mobility** – Fast Charging user-exchangeable battery, ShockSensor for HDD protection, optional 4G/LTE or 3G/UTMS (incl. GPS), WLAN and BT, pull-out LAN connector
- **Highest Security and Convenience** – Optional Advanced Theft Protection, Fingerprint sensor, SmartCard reader and OPAL encrypted drives, optional backlit keyboard and port replicator



Accessories



Port Replicator



Supreme Case Midi 13



CELVIN Drive M200



Ultra-slim (17.1 mm)



33.8 cm (13.3-inch)

Feature Highlights of LIFEBOOK S904 / T904 – IGZO panel technology



1

Extremely high resolution

WQHD with 2560 x 1440 pixel – for touch and non-touch option

2

Super bright

350 cd/m² with 1000:1 contrast ratio enable content display even in sunlight

3

Energy saving

IGZO technology consumes less energy than regular panels



Display brilliance indoor and outdoor

Feature Highlights of LIFEBOOK T904 – Enhanced product design



1

Durability

Full aluminum housing with magnesium lid ensures that outward pressure is not applied directly on internal parts

2

Look & Feel

Valuable material mix enhances haptics in the user interaction

3

Ultra-thin

The only 13.3-inch classic convertible tablet in the market with Ultrabook™ features



Superior just got better and lighter

Fujitsu STYLISTIC Q704



Your Toughest Business Performer

*Perfect field support for ultimate productivity,
no matter if you work in rain, humidity or dust*



Highlights

- **Semi-Ruggedized Design** – Waterproof, dustproof, resistant to alcohol-based wipes, durable chemically strengthened glass display, MIL-STD tested, solid magnesium cover
- **Flexible Working** – Optional anti-glare display for in- and outdoor use, lightweight, dual digitizer for pen input and finger input
- **Ultimate Security** – optional fingerprint sensor, SmartCard reader, embedded TPM, OPAL encryption and Advanced Theft Protection
- **Premium Connectivity** – Optional embedded 4G/LTE, NFC, GPS, WLAN and Bluetooth, two dockable keyboard options, optional cradle

Accessories



Cradle



Keyboard option 1 (with interfaces)



Keyboard option 2 (slim)



Ultra-slim (11.9 mm)



31.8 cm (12.5-inch)



980 g

Fujitsu STYLISTIC Q584



Your Resistant Tablet With Best Viewing Comfort

Solid structure and innovative usability features provide you ultimate user experience, in all surroundings



Highlights

- **Ultimate Convenience** – Ultra-thin and light design, super high resolution display (2560 x 1600), 10 hrs battery runtime, optional embedded 4G/LTE, WLAN, optional NFC, Bluetooth and GPS, and optional keyboard dock and cradle
- **Semi-Ruggedized Design** – Waterproof, dustproof, resistant to alcohol-based wipes and a durable chemically strengthened glass display
- **Simple Usability** – Multi-touch and pen input supporting handwriting recognition with palm rejection technology, ergonomic design, screen auto-rotation, Shell Concept for enhanced functionality
- **Maximum Security** – Fingerprint sensor, optional Advanced Theft Protection, TPM 2.0 and SmartCard reader

Accessories



Cradle



Keyboard (without interfaces)



Ultra-slim (9.9 mm)



25.7 cm (10.1-inch)



640 g

Feature Highlights of STYLISTIC Q584 / Q704 - Semi-Ruggedized Design



1

Waterproof

Tablet withstands exposure to water. Regardless if drops, rain or even dumped in water, the liquid will not soak into the product and the components will not be damaged. IPX5/7/8 tested.

2

Dustproof

Tablet can be exposed to dust, sand and other particles. These will not sink into the device and will not damage it. IP5X tested.

3

MIL tested (TBD)

For dust, vibration, shock, altitude, high temperature, low temperature, temperature shock, humidity and drop.



The perfect device for retail, automotive, healthcare and other verticals

Feature Highlights of STYLISTIC Q584 / Q704 - Super high resolution and ease of use options



- 1 Super sharp content imaging**
WQXGA (2560 x 1600) of STYLISTIC Q584 ensures crystal clear content imaging
Full HD (1920 x 1080) of STYLISTIC Q704 ensures absolutely clear imaging



- 2 Keyboard dock**
Transforms the tablet into a content creation device
2 keyboard options on STLYISTIC Q704, 1 option on STYLISTIC Q584

- 3 Cradle**
Provides maximum comfort and ease of use in the office by
allowing to attach numerous peripherals



 **Super-crisp pictures and comfortable options**

Feature Highlights of STYLISTIC Q584 / Q704 - Back cover Shell Concept



1

Various Shell options as BTO

Tablet supports the "Shell Concept" to support individual customer requirements, e.g. for Verticals

2

Standard Shell

Tablet will be outfitted as a semi-ruggedized product, waterproof and dustproof

3

Functional Shell

The Functional Shell with VESA bearing supports VESA mount kits, e.g. for a hand strap or wall brackets
The product is waterproof and dustproof.

4

SmartCard Shell

Supports a SmartCard slot and includes the VESA bearing like the Functional Shell, but loses waterproofness and dustproofness due to the reader interfaces



Highly customizable to individual customer needs

Feature Highlights of STYLISTIC Q584 / Q704 - NFC (Near Field Communication)

1

Contactless short-range data exchange

International connectivity standard; NFC standards cover communications protocols and data exchange formats, and are based on existing radio-frequency identification (RFID) standards. NFC builds upon RFID systems by allowing two-way communication between endpoints.

2

Large variety of applications

NFC currently used for mobile payment, information access at terminals, ticketing systems (public transport or mobile tickets (cinemas)), social networking.

3

Future proof

Upcoming usage scenarios include inventory tagging, play back of specific scenario settings, and a lot more.



Enjoy highest convenience!

CELSIUS Workstations Highlights



Reshape the workplace with ...

CELSIUS Workstations

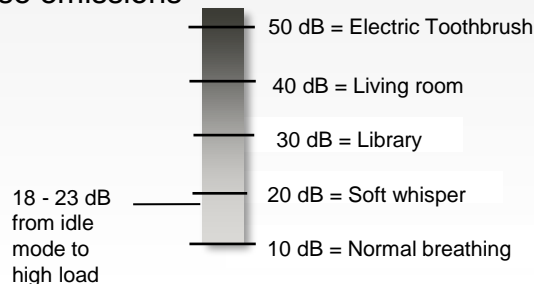
- System engineering, mainboard development and production "Made in Germany"
- Comprehensive portfolio
 - From mobile up to dual processor high-end workstation
 - Broad certifications for workstation ISV applications
- Best-in class benchmarks
 - Leading benchmark figures in computing and graphics
 - Record breaking noise emission, 18 – 23 dB(A) at full load
- CELSIUS workstation easy to use
 - Upgrade-friendly cabinet with easy access to all major components

Fujitsu's
CELSIUS
workstations
contribute to a
quiet working
environment

Leading-edge performance -

For all application needs

- Best performance
 - Latest technologies and support for up to 512 GB of main memory
 - Support for the latest OpenGL graphics with increasing memory sizes
 - Specially tuned graphics drivers to provide the best possible image quality
- Prevention of data corruption through ECC and RAID technologies
- Optimized thermal management system to minimize noise emissions



Positioning CELSIUS Workstations



Benefits

All-round Line

ENTRY CAD, DCC, EDA
AND FSA

CELSIUS W530
CELSIUS W520 Long
Lifecycle

Advanced Line

HIGH-END 3D CAD,
DCC AND FSA

CELSIUS M730
CELSIUS C620
CELSIUS H730

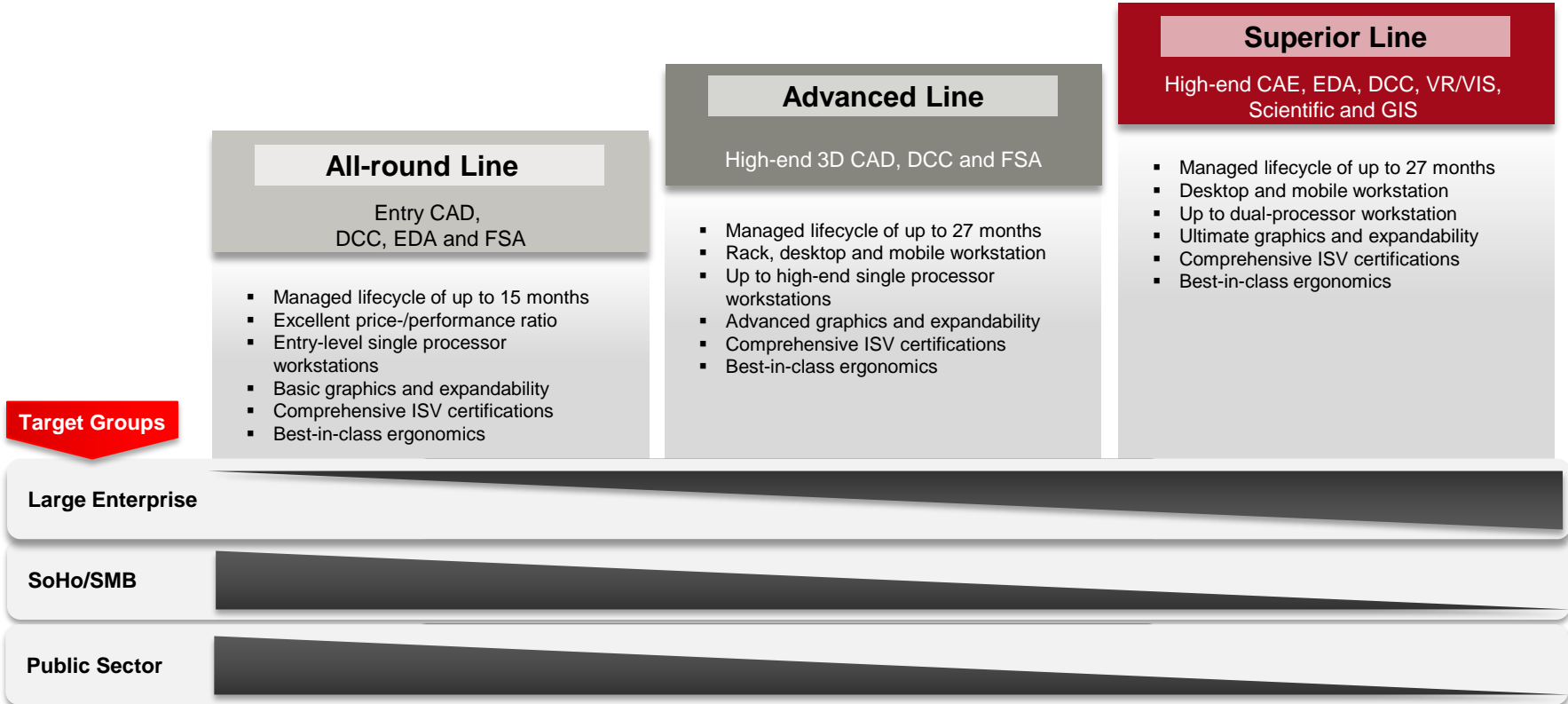
Superior Line

HIGH-END CAE, EDA, DCC, VR/VIS,
SCIENTIFIC SIMULATIONS AND
GEOSCIENCES

CELSIUS R930
CELSIUS H920

Functionality

Segmentation of FUJITSU Workstation CELSIUS



Product Positioning of CELSIUS Workstations



	Mobile	1U Rack Workstation	Single-processor workstation	Dual-processor workstation
Superior	<p>CELSIUS H920</p> 			<p>CELSIUS R930</p> 
Advanced	<p>CELSIUS H730</p>  <p>CELSIUS H720</p> 	<p>CELSIUS C620</p> 	<p>CELSIUS M730</p> 	
All-round			<p>CELSIUS W530</p> 	

Portfolio FUJITSU Workstation CELSIUS



All-round

Entry CAD,
DCC, EDA and FSA



CELSIUS W520 Long Lifecycle

- Entry-level single-processor workstation
- Optimal for entry 3D CAD and DCC apps
- Additional PCI and HDD expandability
- Cold plug access
- Up to 32 GB memory

CELSIUS W530

- Entry-level single-processor workstation
- Optimal for entry 3D CAD and DCC apps
- Supports up to high-end graphics cards
- Additional HDD expandability
- Up to 32 GB memory

Advanced

High-end 3D CAD, DCC and FSA



CELSIUS C620

- Powerful 1U rack workstation
- Support of ultra high-end graphics or compute card
- Ideal for Remote CAx and High-Performance Computing
- Up to 32 GB memory

CELSIUS H720

- Workstation power on-the-go
- 39.6 cm (15.6-inch)
- Up to Intel® Core™ i7 with vPro™ technology
- Fully-certified, powerful, professional OpenGL graphics
- Modular bay for full flexibility
- Up to 32 GB memory

CELSIUS H730

- Workstation power on-the-go
- 39.6 cm (15.6-inch)
- Up to 4th generation Intel® Core™ i7 with vPro™ technology
- Fully-certified, powerful, professional OpenGL graphics
- Modular bay for full flexibility
- Up to 32 GB memory
- Optional PalmSecure

CELSIUS M730

- High-end single processor workstation
- Optimal for demanding CAD and DCC apps
- Support for up to 2 ultra high-end graphics cards
- Up to 128 GB memory

Superior

High-end CAE, EDA, DCC, VR/VIS,
scientific and GIS



CELSIUS H920

- High-end workstation power on-the-go
- 43.9 cm (17.3-inch)
- Up to Intel® Core™ i7 Extreme with vPro™ technology
- Fully-certified, high-end, professional OpenGL graphics
- Up to 32 GB memory



CELSIUS R930

- High-end, dual processor workstation
- Optimal for demanding compute and memory intensive parallel apps
- Support for up to 3 ultra-high-end graphics incl. SLI or computing cards
- Up to 512 GB memory
- Prepared for workstation virtualization and HPC

FUJITSU CELSIUS C620



1U of Pure Workstation Performance

Strength:

- **Most dense performance** – Highest performance packed in only one height unit (1U)
- **For demanding tasks** – Powerful Intel® Xeon® processor and professional graphics for HPC and Remote CAD, CAE, DCC, Visualization. Fujitsu CELSIUS C620 can be clustered or accessed directly
- **Rack-mount** – Rack workstation for integration in the data center leading to physical protection. Secure access is ensured thanks to Fujitsu's remote access solutions
- **Manageability** – Onboard gigabit remote management controller (iRMC S3). IPMI 2.0 system management saves time and resources



Technology:

- **Maximum RAM** – Up to 32 GB fast DDR3, 1600 MHz memory
- **Professional graphics power** – Support one ultra high-end AMD® and NVIDIA® graphics or one compute card
- **Leading processors** – Intel® Xeon® E3-12xx v2 processors and optional NVIDIA® Tesla™ GPU
- **Fast networking** – With InfiniBand (Dual 10Gbit LAN) card



Workstation Power On-the-go

Strength:

- **Full mobility** – Workstation power in a notebook form factor with a 36.9 cm (15.6-inch) Full HD, LED backlight display for 3D CAD, DCC, FSA and Engineering
- **Flexible expandability** – With port replicator and a modular bay e.g. second hard disk drive/battery
- **Reliable connectivity** – With different optional features like 4G/LTE, 3G/UMTS, WLAN/Bluetooth® for location-independent working
- **Ultimate security** – With e.g. Optional Palm Secure or fingerprint sensor and TPM module, Advanced Theft Protection (ATP)
- **Energy savings** – Automatic, workload-dependent switching between powerful OpenGL workstation graphics and Intel® integrated graphics maximizes battery runtime



Technology:

- **Maximum RAM** – Up to 32 GB fast DDR3 1600 MHz memory
- **Professional graphics** – NVIDIA® Quadro® graphics
- **Leading processors** – Up to 4th Gen Intel® Core™ i7 vPro™ processor

CELSIUS Innovations and Solutions

Remote Access

- Shift of the workstation to the datacenter
- Access via TCP/IP network
- Hardware solution based on PCoIP
- Benefits
 - Enhanced data security
 - Protection against external influences
 - Spatial independency
 - Completely OS and drivers independent



Personal Supercomputing

- GPU (graphics processing unit) computing
- Personal Supercomputing at your desk
- Application of NVIDIA® CUDA™ technology
- Benefits
 - Extreme acceleration of parallel applications
 - Compact computing power (entry HPC)
 - Combinable with high-end graphics cards



NVIDIA® Maximus™

- Fast rendering plus parallel computing
- Combination of NVIDIA® Quadro® graphics cards and Tesla™ compute cards
- Benefits
 - Acceleration of workflow
 - Faster time-to-market
 - Optimizes the use of CELSIUS workstation

Applications
Graphics Compute
NVIDIA Maximus



Workstation virtualization

Why workstation virtualization

- Multiple users per workstation
- Remove heat/noise from offices
- Increased data security
- Usage in adverse environments
- Protection against theft or damage
- Separate workstation and user
- Resource sharing

Recommended Workstation Environment

- Workstation: CELSIUS R930
- Graphics: Up to 3x NVIDIA Grid K1, K2
- Hypervisor: XenServer or vSphere
- Virtual Desktop Agent: XenDesktop or View



Share one FUJITSU workstation CELSIUS with multiple users

FUJITSU

shaping tomorrow with you



Your hand is your key

Fujitsu PalmSecure



Biometry & 3 Factor Authentication

That You Know

- Password
- PIN
- ID Number
- ...

That You Have

- Key
- Token
- SmartCard
- National ID Card
- ...

That You Are

- Biometry



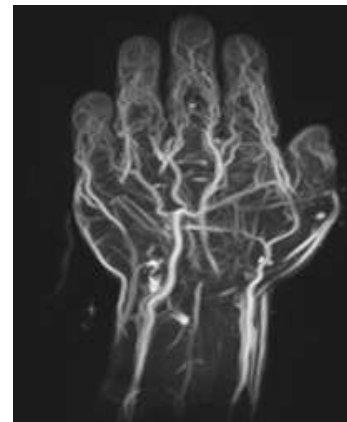
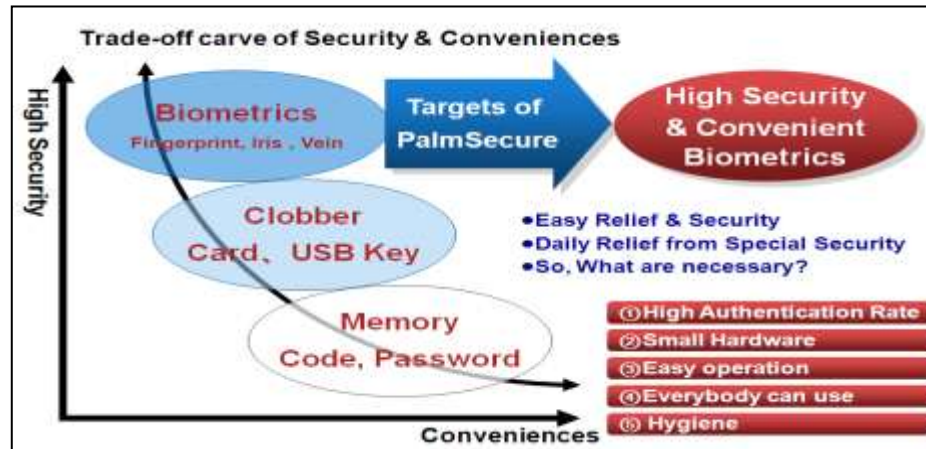
Why and which biometrics?

➤ Why biometrics?

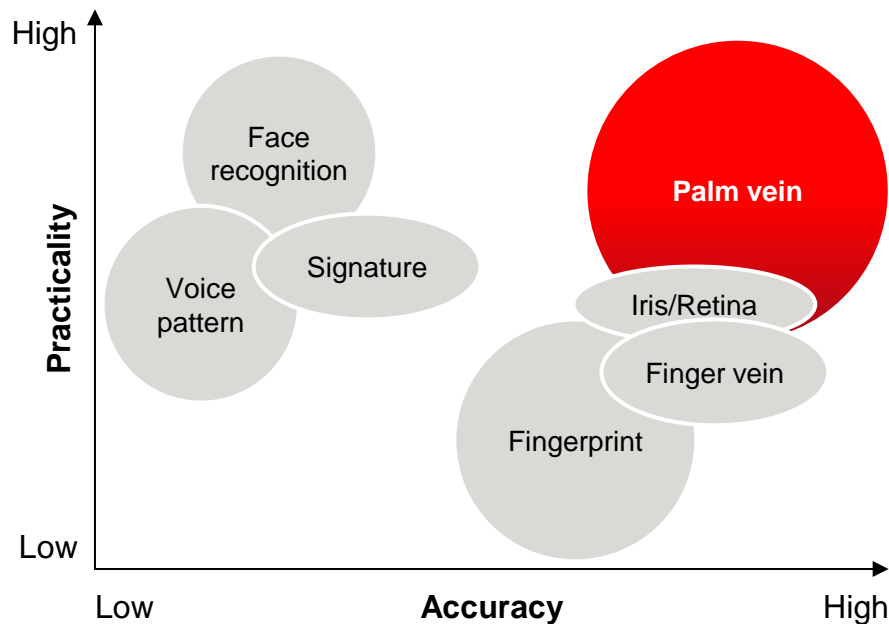
- Security combined with convenience
- True authentication
- Social security
- Accelerating and facilitating access
- Keeping privacy
- Cost and workflow reduction

➤ Which biometrics?

- Best FAR / FRR / FTA / FTE specification & liveness detection
- Less sensitive to environmental influences
- Applicability rate equal almost 100%
- Hygienic operation
- Should fulfill criteria of whole authentication process
- Age independent usage



Authentication Accuracy Comparison



False Acceptance Rate (FAR) & False Rejection Rate Comparison (FRR)

Authentication Method	FAR (%) =	If FRR (%) =
Face recognition	~ 1.3	~ 2.6
Voice pattern	~ 0.01	~ 0.3
Fingerprint	~ 0.001	~ 0.1
Finger vein	~ 0.0001	~ 0.01
Iris/Retina	~ 0.0001	~ 0.01
Fujitsu Palm vein	< 0.00008	~ 0.01



Fujitsu palm vein scanner is the most accurate and most practical technology.

Is it Possible to False Acceptance? (2 factors)



If you use PalmSecure for **Identificiaton** i.e.
i.e. **1:N Matching**, then You get below **False Acceptance Rate**

$$\%0,00008 = \left(\frac{0,00008}{100} \right) = 8 \times 10^{-7}$$

If you use any Index Number such as **TC National ID Number** which is Unique in Turkey for every Citizen.
i.e. **1:1 Matching** and **Verification**

So, Proposition will be follows:

+ What is the probability of coincidence of picked Index Numbers' Biometric Data will be the nearly same within these 8 people in 10 Million. You should multiply these probabilities to find the probability of being same time of these.

$$\%1/80.000.000 = 0,00000008/100 = 8 \times 10^{-9} \times 8 \times 10^{-7}$$

1 to 0,000000000000000064 i.e. Impossible in Practical

Why Palmsecure®?

Advanced Security

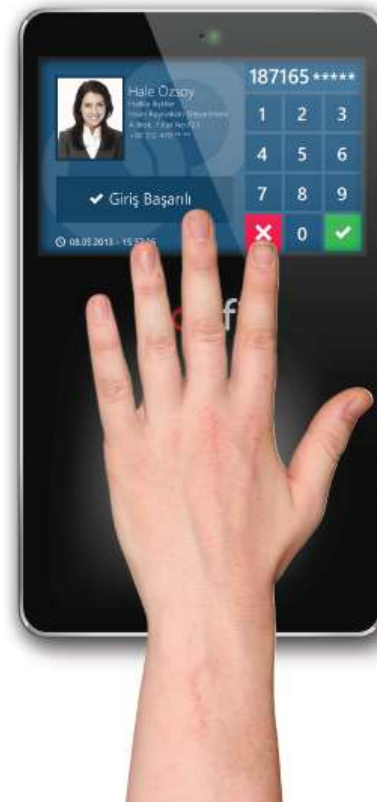
- Impossible to Copy
- Life Detection
- Complex Bimetric Pattern
- 7200 mm² Palm Area
- 5 Million Reference Point
- Minimum FAR: 0,00008
- Common Criteria

Highly Social Acceptance

- Fastest
- Touchless, Hygienic
- Easy to Use
- Ergonomic
- Invasible

Widely Usage on Many Sectors

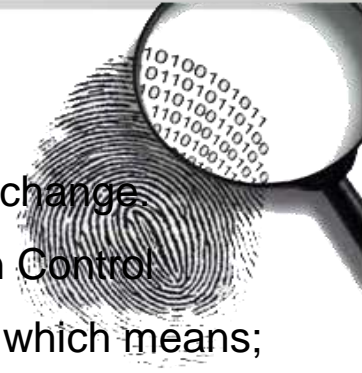
- Does Not Change with Age
- Does Not Affected by Environmental Factors
- Indoor/Outdoor Usage
- Integration to any Application by SDK



PalmVein vs. FingerPrint



- Can be Copied Easily
- It is constant Data, does Not change
- Can be Hacked Life Detection Control
- Fingerprint is a Criminal Data which means;
 - Stay Fingerprints of Objects that you touch
 - Tracable
 - Comparable with Database without your permission
 - It is Not Legal on Many Countries if you don't have any criminal record.
- Affected by Dust, Oil, Humidity, Cut Off or injury





+ You can't print on the surface.

+ It is not a constant data, changing every time



AES 256 bit Encrypted Biometric Template. Impossible to Hack Near Future based on Today's IT Technologies

+ Inside of the body. Can't be Copied



No Vein Image. Just Getting Results from Mathematical Functions depending on Vein Pattern and Storing it as a Crypted Template

+ It is **NOT** a Criminal Data. When you place your Palm over Sensor then System can compare your Live Data and Template, Otherwise Data on Database can not use for Matching without your permission.

+ That means If you don't let the system Template Data is Useless

Palm Vein Authentication Advantages

High Safety & Permanence – advantage of veins

1

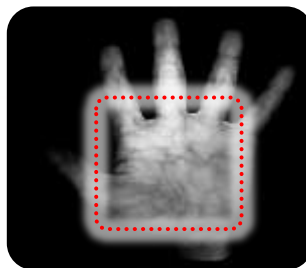
- Hidden under the skin
forgery difficult
- Unique
even among identical twins
- Never change
same throughout life
- Detectable only when
blood is flowing



High Accuracy – advantage of a palm over a finger

2

- Palm vein patterns are complex
>5 million reference points
- Palm contains thicker veins
than fingers – easier to identify
- Palm veins are insensitive
against environment (cold
temperature, creamy hands,
skin scratches)



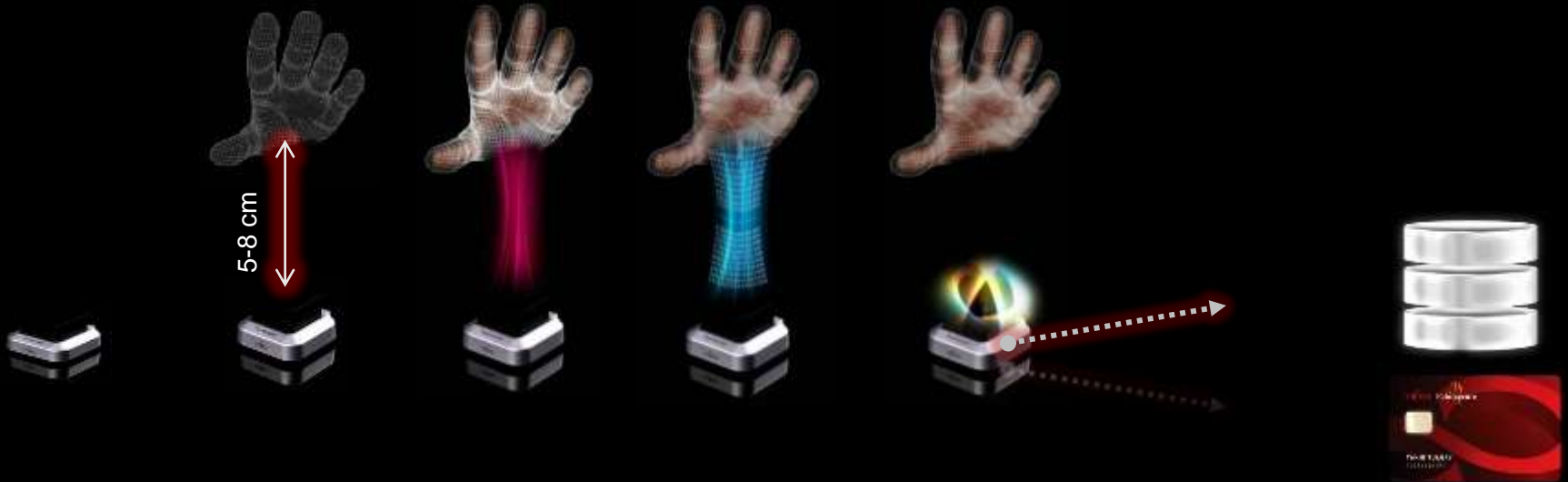
High Acceptance

3

- Very hygienic due to no-contact
operation
- Very easy and intuitive to use
- Biometric pattern hidden inside
the body (privacy)



How PalmSecure® Works?



Wide Range of Applications

Financial

- Online-Banking
- ATM, Counter
- Deposit boxes



Personal Record Management

- Social Security
- National IDs
- Health care



Information Access Management

- PC/Server/Terminal Log in, Enterprises
- Airports, Authorities, Construction area
- Time attendant system



Cash-less & Card-less Payments

- Retail stores
- Gas stations



There are 30 million active users of Fujitsu PalmSecure in the world.

■ PalmSecure target groups (1)

Datacenter

- DC access security
- DC Rack access security
- IT infrastructure security

Retail

- Cashless payment security
- Cash register security
- Time & Attendance security

Financial sector

- ATM security
- Customer ID mgmt
- Safe deposit box acc. sec.
- Network transaction sec.
- Customer services security
- IT infrastructure security

Government

- Social security
- IT infrastructure security
- National ID card security
- Compliant archiving security
- eGov security

Automotive

- Network supported services security
- Time & Attendance
- Rental car ID management
- Access security

Healthcare

- Patient identification security
- Secured cloud access
- IT infrastructure security
- Time & Attendance security
- Access security

■ PalmSecure target groups (2)

Utility

- IT infrastructure security
- Access security
- Network services security
- Time & Attendance security

Enterprises

- Access security
- IT infrastructure security
- Network access security

Industry

- R&D access security
- Secured cloud access
- Time & Attendance security
- IT infrastructure security
- Access security

Entertainment

- Access security
- Customer identification
- IT infrastructure security



Global Projects

.



PalmSecure – Global Business



USA

- Healthcare: Patient registration (deployed in 200 hospitals and used by more than 7 million patients)
- Education: School Lunch Lines (Replaced PINs & card IDs in 700 schools for 1+ million students)
- Pearson VUE: over 5,000 test centers deployed PalmSecure to virtually eliminate identity fraud for approximately 10 million test takers for the GMAT
- SSO (Single Sign On)
- Physical Access: University, hospital & datacenter

Europe

- Germany: banks, airports, enterprises, retail
- Austria: healthcare, drugstores, government, enterprises
- Switzerland: government, enterprises
- Italy: financial sector, enterprises
- Netherlands: retail, healthcare, banks
- Portugal: industry, government
- France: enterprises; banks

Russia

- Banks
 - Sberbank & Federal Bank
 - Authentication via ID Card and PalmSecure
 - Document scanners
 - Protection of locker rooms
 - Transaction between banks
- Government

Japan

- Financial market
 - ATM
 - Bank terminal
 - Back Office
 - Access Control
- Government
 - Citizen Identification
 - Operator Identification (police/ fire dept.)
- Retail & manufacturing : (T&A; Login to terminals; PAC)
- Healthcare
 - Patient identification
 - PAC (Pharmacy & new born baby room)
- Education (Identification; Cashless payment)

Turkey

- Healthcare:
 - Authentication of patients in hospital
- Banks:
 - Ziraat Bank
 - ATMs and IT Client Server access
- Government: National ID Card
 - Biometric data added to ID Card
 - Development of Match-on-Device solutions

Latin America

- Bank
 - Brazil: Bradesco bank

India

- Indian Railway:
 - Crew identification & alcohol detector
 - Purchase ticket
- Hospital: patient identification & care
- Healthcare: Identification ; blacklist worker
- Enterprises: Physical Access Control
- Entertainment: PAC fitness center
- Banking sector: multi modal solution
- Data center: Physical Access Control



Fujitsu PalmSecure has a worldwide customer base

Requirement

- Bank of Tokyo-Mitsubishi UFJ
- Japanese biggest commercial bank
- 40.000.000 customers → 1.500.000 users of PalmSecure



Biometric Smart Bank
Card for ATM users

Solution

- ATM
 - 2 factors (bank card and PalmSecure)
- Authentication of customers
- Contactless usage

Customer benefit

- High customer acceptance
 - Easy and convenient to usage
 - Hygienic factor
- Cost reduction by decreasing fraud rate

Requirement

- T.C. Ziraat Bankasi Asi
- Biggest state bank in Turkey
- Operating time: January 2012
- More than 1.500 ATMs; 30 VTM



Solution

- Transaction service at ATM and VTM
- Biometric authentication systems enables cardless transaction
- Identification of customers

Customer benefit

- Easy usage
 - If card is forgotten usage via National ID card and PalmVein
 - Contactless
- Highly secure: strengthening personal identification
- Usage for transaction in automated stores (VTM)

Requirement

- Turkish Government: National ID card
- Introduction and installation of a nationwide new authentication method via ID card
- New ID card contains two biometric authentication methods
- Reduce fraud rate of ID cards

Solution

- Integration of Palm Secure technology in ID card chip
- Enrollment of Turkish citizens
- Development of the devices to “read” the PalmSecure vein templates at the smart card chip

Customer benefit

- Uncomplicated, fast registration process
- Highly secure authentication
- Extremely high user acceptance
- Reducing fraud and crime rate
- Biometric data only has to be entered once in a lifetime



Requirement

- Berlin Brandenburg Airport (new airport for the German capital region) : Physical Access Control
- Fast and easy access for authorized persons only
- Secure against authentication fraud
- Insensitive against environment influence
- Robust and reliable – High Availability



Solution

- PalmSecure based Physical Access Control terminals & turnstyles
- Template on Card method using LEGIC smartcard on which biometric template is stored
- 40.000 enrolments of airport staff, third parties and authorities

Customer benefit

- High security level true authentication
- Reducing administration efforts & costs
- Keyless operation
- Simplifying the authorization process for new people

Requirement

- Todholm Primary School in Paisley, Scotland: Point of Sales (POI)
- No payment with card or money
- User acceptance
- Hygienic
- Quick processing



Solution

- PalmSecure based POS terminals
- Cardless operation using palm veins and pin number
- Accounting process running in the background

Customer benefit

- Cost reduction through:
- Easy and efficient billing process
- No card or money handling
- “Food is really issue” – “money is not used for other purposes
- Higher rate of provided user per hour
- Easy diet and special food handling

Requirement

- T&W Operations, Inc.
- Location: USA
- Verification of location and safety of students

Solution

- Identification of students
 - At bus
 - At school
- Cloud-based database
- Software used: Kidtrack TM

Customer benefit

- High satisfaction of customers
 - Increase safety of children
 - Tracking by parents
- Decrease of crime rate



Requirement

- SAIL: Steel Authority of India Limited
- Largest public sector manufacture organization in India
- Several locations
- 10.000 users



Solution

- Time & Attendance solution
- Unique handling across several offices
- Cardless and contactless identification

Customer benefit

- Cost reduction by abolishing card system
- Common system across all offices
- Secure authentication of staff
- Secure time recording → payment

Requirement

- UK Gym EasyGym : Physical Access Control
- Fast and convenience access for authorized persons only
- No staff needed
- Simplified user process (registration and access)
- Reliable and robust in daily operating



Solution

- Integration of PalmSecure as Physical Access Control solution into existing turnstiles
- No smartcards anymore which can be transferred or which can be gone lost
- Combination of birthdate & biometric palm vein template

Customer benefit

- Member ID cards cannot be passed on to others
- More “real” registered members
- Low center operating costs
- Automated processes:
 - Offering, contracting & payment via internet
 - Registration and access on-site

Requirement

- “Fitnessforce: Club Management Software”
- Various fitness centers in India
- More than 100.000 users



Solution

- Turnstile with touchscreens and PalmSecure
- Identification of club members
- Hygienic solution by using contactless authentication
- Desktop in turnstiles grant further options to club members

Customer benefit

- Member ID cards cannot be passed on to others
- Low center operating costs
- Fitness centers can develop more customer centric services based on data

Requirement

- Healthcare Turkey: Patient Identification
- Eliminating frauds caused on invoicing
- Optimized processes
- Reducing administration effort
- User acceptance – easy handling



Solution

- End to end PalmSecure based solution
- Secured thin client workstation in each hospitals
- Secured process using government servers
- Combined with national id card numbers
- Valid for each hospital and each patient

Customer benefit

- Fraud costs significant reduced
- Faster billing and payment
- Low clearance effort
- Used also to avoid medicine misuse
- 1st solution nationwide to be adopted for other sectors as well

Requirement

- Pharmacy in Austria: Log In / Single Sign On
- Tamper-proof business processes, highest protection against frauds
- Documentation and evidence of any acting with medication
- For employees easy to use, no education effort
- Easy to integrate in whole business processes and applications



Solution

- True authentication processing through integrating PS based technology into existing system / software landscape
- One authentication technology covers multiple ID requiring processes

Customer benefit

- Cost reduction through:
 - No longer code cards and handling with it
 - No password management
 - Audit proofed tasks
- One authentication for all:
 - Medicament providing
 - E-Banking
 - Time attendance
 - Access control

Requirement

- Akums, India
- Large multi brand multi location
- Industry: Pharmacy
- 8 factories; 12000 -25.000 user



Solution

- PAC solution
 - Identify blacklist workers
 - Control interplant movement
- Authentication of workers
- 1:n solution
 - Keeping data for 3-5 years
 - Authenticate over 25.000 users

Customer benefit

- Contactless – hygienic, high reliable system
- True authentication
- Cost reduction
 - No card systems
 - Managing interplant movement
 - Identification of “ghost workers”

Requirement

- Vodafone UK
- Cellphone deposit service
- Deposit service for events where cellphone are forbidden



Solution

- SSO solution
 - Identification of the cellphone owners
- Accurate identification of a large number of visitors
- Handling high amount of enrollments and identification in a short timeslot

Customer benefit

- Marketing awareness at large events
- Customer satisfaction
- Secure deposit service

Requirement

- TDS: datacenter
- Protect datacenter, entrance just for authorized personal
- Technology: easy to use at and high security level
- Suitable to time recording system



Solution

- INTUS 1600PS palm vein recognition by our partner PCS based on Fujitsu PalmSecure
- All TDS datacenters are generally equipped
- Identification via palm vein compares with recording system
- Template is saved on an RFID card

Customer benefit

- Genuinely secure access control system
- Combination with time and attendance system
- Fast authentication procedure
- Relief of the burden on employees
- Extremely high user acceptance
- Low administration & maintenance costs
- Data security

Secure Authentication Solution

Workplace Protect

Overview

- Single application for all security relevant settings
- Simple configuration of authentication methods
- Protects workplace devices against unauthorized usage
- Automatically locks workplace devices, when user leaves his/her desk
- Supports a wide range of security devices
- Comes pre-installed on Fujitsu workplace systems devices



Overview

- **Configuration of pre-boot authentication** based on fingerprint or smartcard to be presented at BIOS level
- **Support for single-sign-on**
- **Setting of passwords** (BIOS Supervisor- and hard disk-password)
- **Password safe** – stores secret login details needed to logon to protected websites
- **Encrypted Container** - virtual disk encryption to protect important user data



Authentication Features

User authentication for Microsoft® Windows® using different methods.



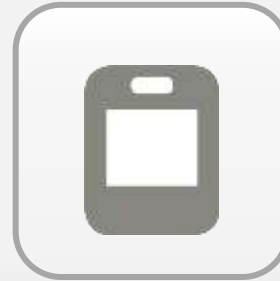
Fingerprint



SmartCard



RFID Card

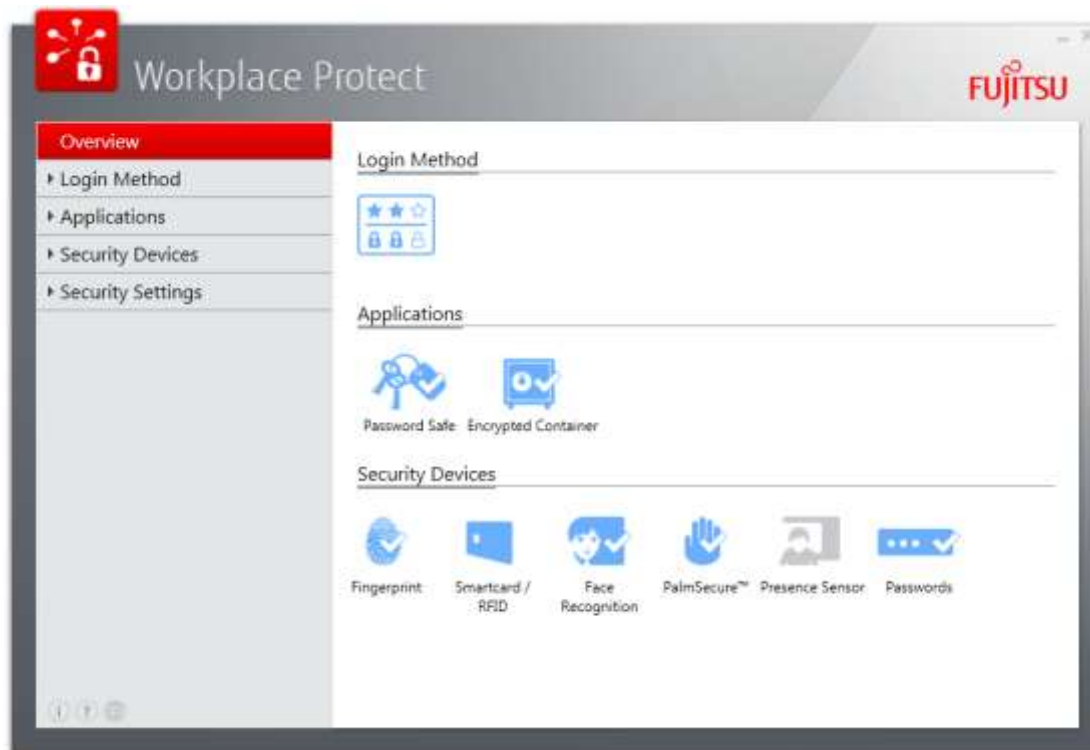


PalmSecure

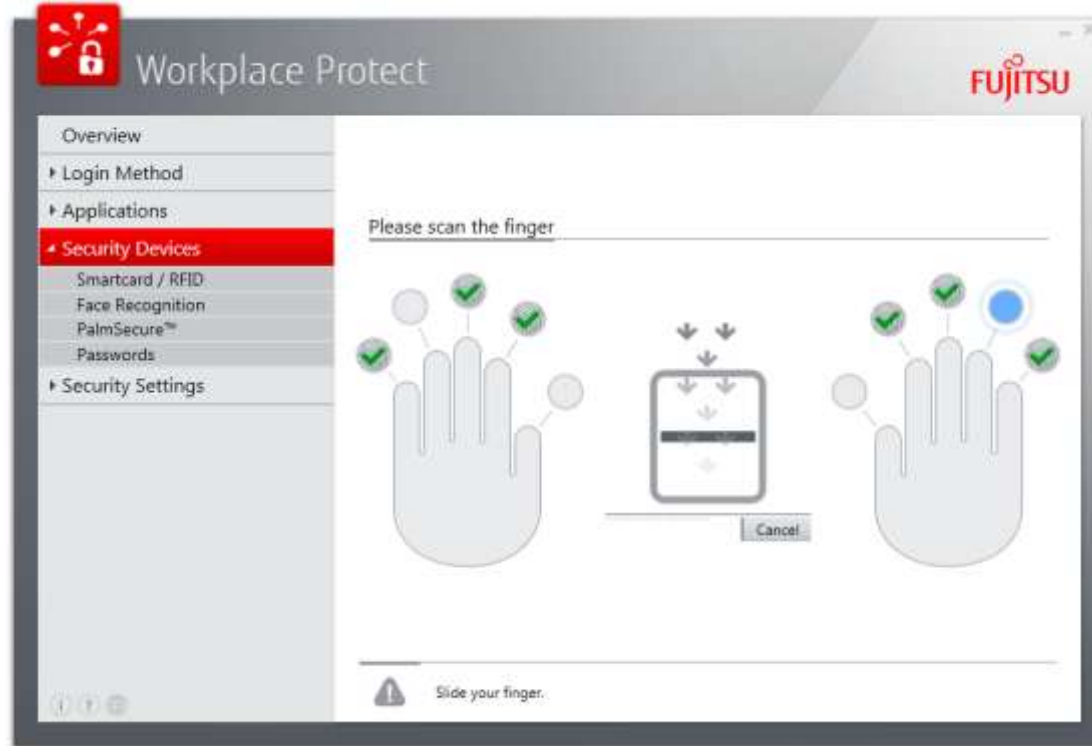


Face Recognition/
Presence sensor

Overview - Screenshot



Security Devices - Screenshot

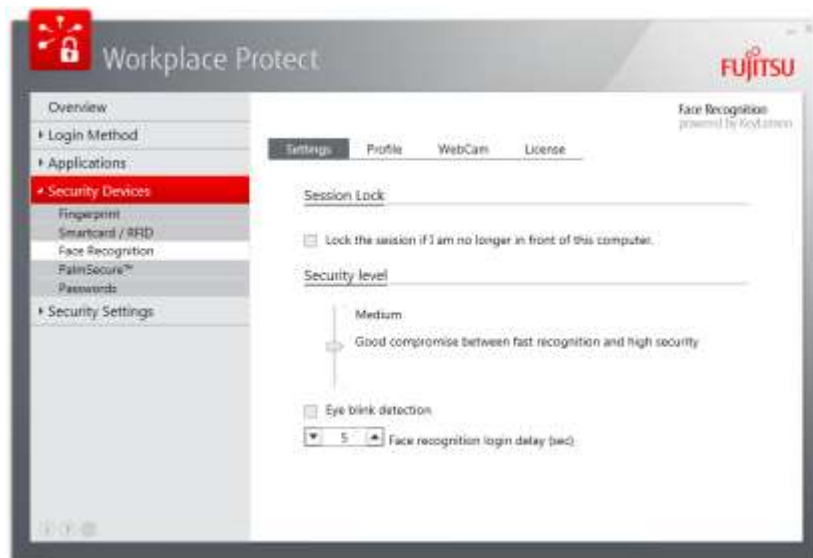


Face Recognition

i Basic version of Face Recognition is part of Workplace Protect.

Advanced Face Recognition (optional)

- Additional features:
 - Support for more cameras
 - Multiple profiles
 - Different security levels
 - Eye blinking support
 - Session Lock
- Free for 30 days after initial activation
- License can be ordered via Internet or pricelist



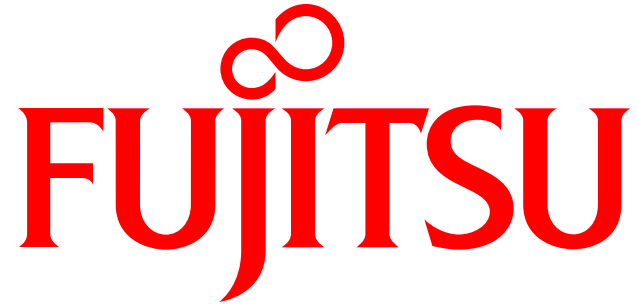
Workplace Protect – Customer Benefits



- Easy user authentication with biometric devices or SmartCards
- Pre-boot authentication, perfectly secures the workplace on BIOS level
- Single-sign-on, features automatic logon to Microsoft Windows®
- Simple configuration of BIOS supervisor and hard disk passwords
- Password safe, manages login data to websites and stores logon credentials
- Encrypted container, stores sensitive data in a virtual encrypted drive thus ensuring highest level of data protection



Workplace Protect – Ensures secure access to valuable business data!



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