AlfaBox

A multi-tenant **50k-user PowerServer** success story for HR and performance management in the Italian Healthcare

Berlin 29.04.2025
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Profile

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Appeon MVP

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Recent Projects

- PowerServer addict
- Training in Appeon products
- WebApp driven by .NET Datastore
- Maintenance of legacy PB apps
- Consultant for Appeon, Novalys, SPI, Power People-IT…

Key Skills

- PowerBuilder
- PowerServer
- SnapDevelop
- .NET DataStore
- SnapObject ORM
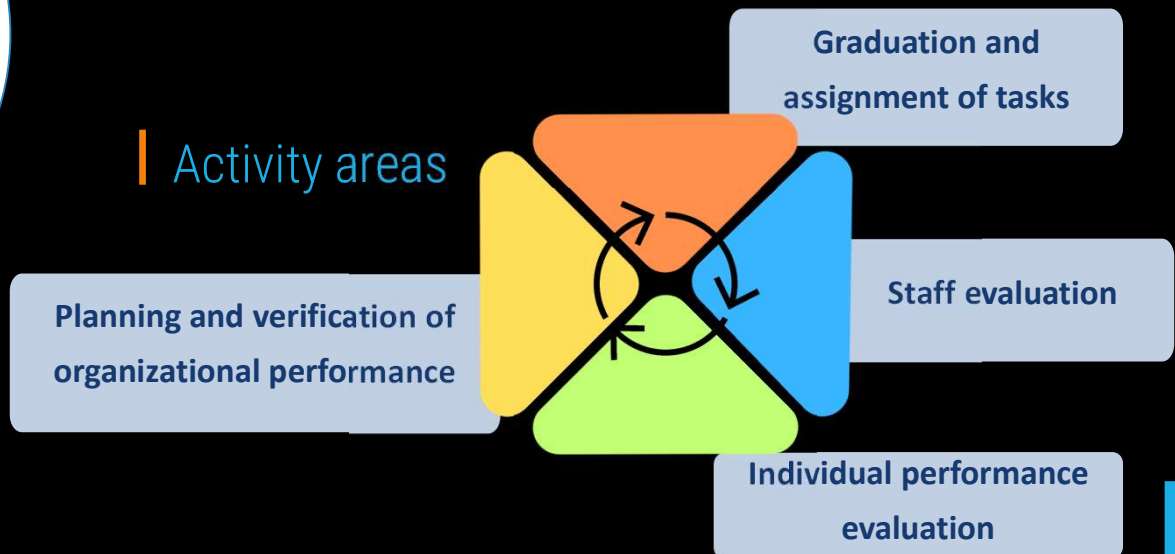- Vue.JS
- Big Data
- Machine Learning

HMS Consulting

About

- Located in Florence, Italy
- Public Healthcare Domain
- Management Consulting and Training

Activity areas

ISSOS Servizi
HMS Consulting

Graduation and assignment of tasks

Staff evaluation

Planning and verification of organizational performance

Individual performance evaluation

AlfaBox

▶ Integrated solution for HR management and performance of the national **Healthcare** budgeting and process optimization

▶ **Web** and **Cloud** architecture

▶ Used at 61 administrations, hospitals and institutes in the **public healthcare**

53.371 USERS
… and counting

61
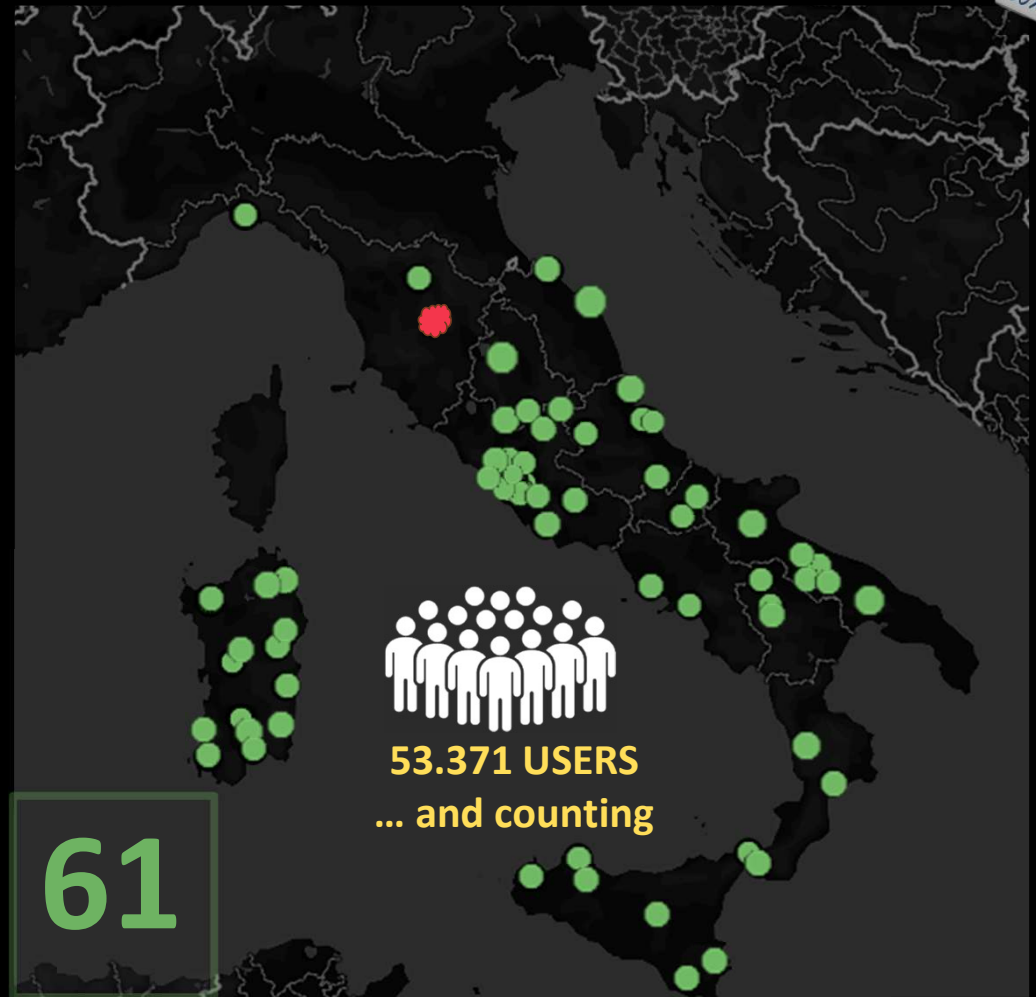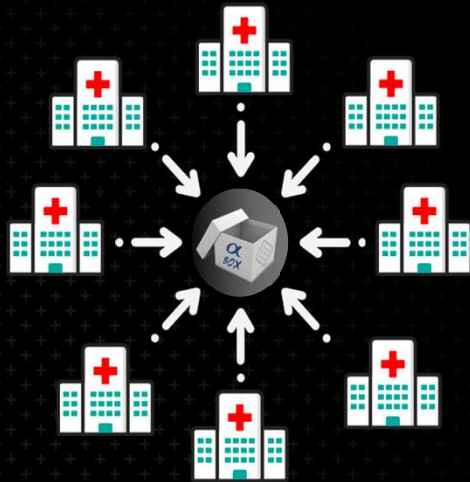
Key Functionality

Organizational Performance	Individual Score	Personnel Evaluation	Career Path Selections	Private Practice Management

Organizational Performance
- Management of resources assigned to BU
- Strategy, operational goals and KPI
- Budget plans
- KPI monitoring and verification
- Dashboard Directive Conseil

Individual Score
- Programming and control of individual scores
- Parameters of personnel incentives
- Calculation of individual allowance and awards

Personnel Evaluation
- Personnel responsibility
- Professional evaluation of responsability
- Outcomes from employyes' career
- Dashboard HR

Career Path Selections
- Parameters for personnel selection in career paths
- Career path request forms
- Standing charts

Private Practice Management
- Deployable company resources
- Medical agenda
- Private practice authorization
- Private practice management
- Accounting and Invoicing

Key Metrics

Customers	61
Employees per Institute	800 to 6,000 each
Annual Individual Profiles	~265,000
Annual Individual Scores	~2,380,000
Annual Mail notifications	~240,000
Annual Budget per Institute	1M to 10M Euro
Users	53,371
Concurrent	Up to 1000
Automation	95%
Reduction of dedicated personnel	70%
Reduction of process management time	80%

Dev Framework

- Appeon PowerServer
  - Convert c/s projects into modern Installable Cloud Apps (ICA)
  - Formerly Installable Web App (IWA)
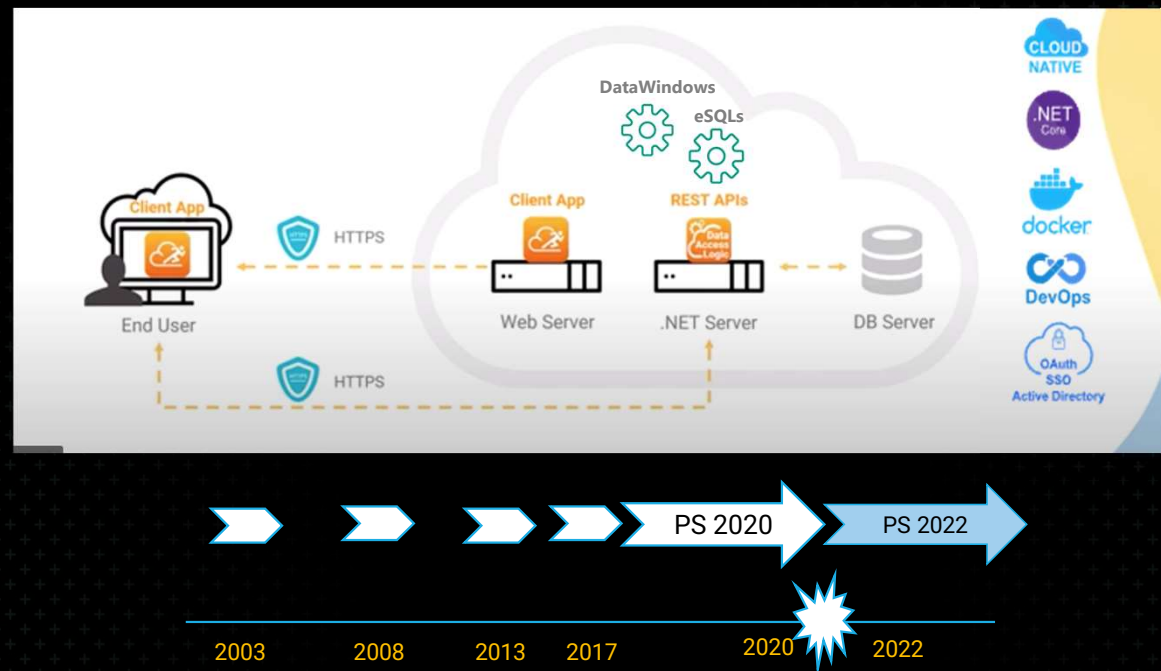
Why PowerServer?

- Brand new project started in 2011
- Limited budget and human resources
  - Consultancy in domain not supported by specialized software
- Fast development/deployment curve
  - *A-priori* 3-tier programming best practice instead of *a-posteriori* performance tuning or re-engineering
  - Unbeatable productivity (1 day/week dev work)

Architecture

Server Farm

Base speed: 2.10 GHz
Sockets: 2
Cores: 16
Logical processors: 32
Virtualization: Enabled
L1 cache: 1.0 MB
L2 cache: 16.0 MB
L3 cache: 22.0 MB
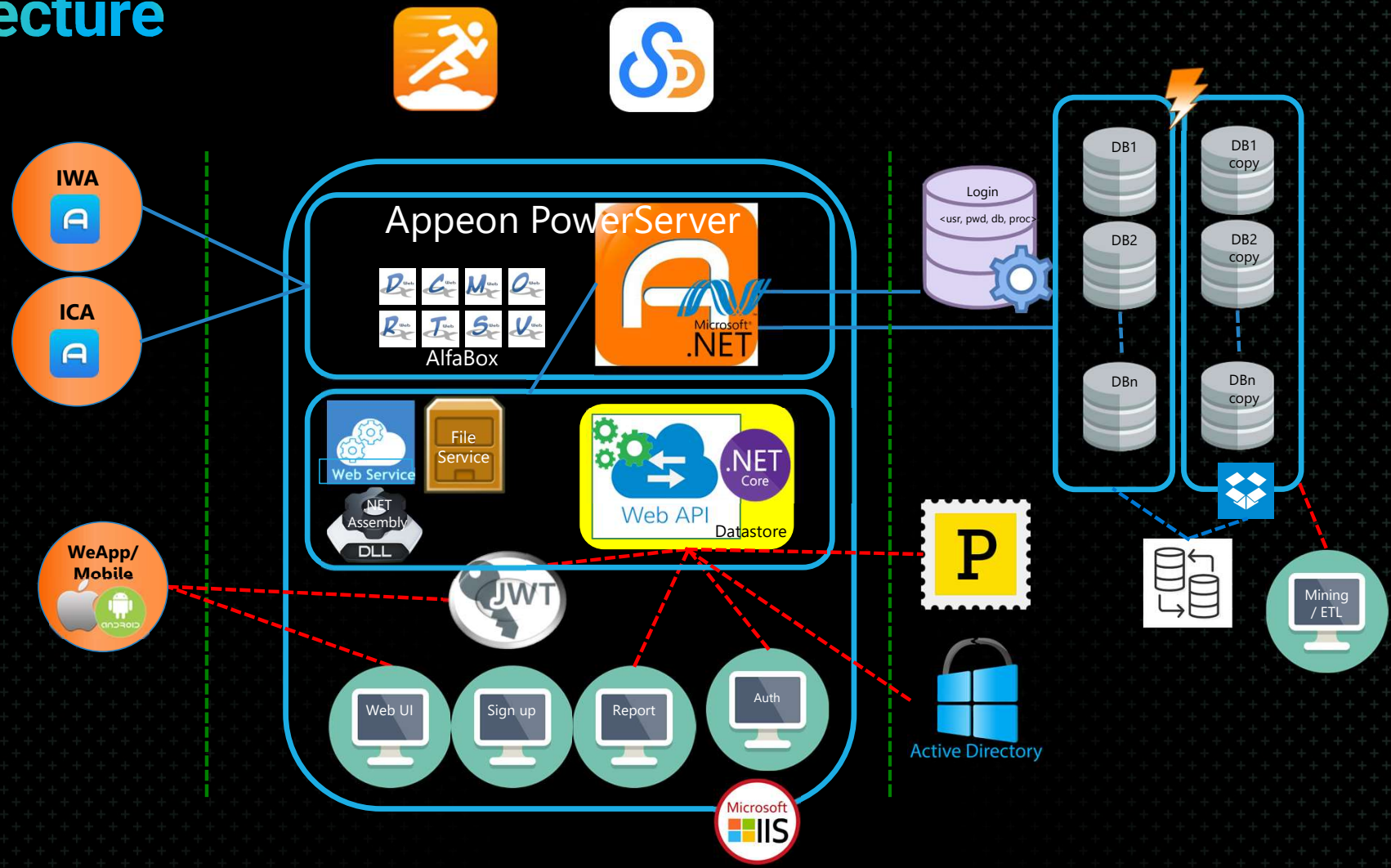
☐ **High-end Server sizing (memory, cores) based on load peaks**

☐ **Up to 1000 users simultaneously (400 IWA, 600 ICA)**

☐ **1GB/s symmetric connectivity**

View basic information about your computer

Windows edition

Windows Server 2019 Standard

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System

Processor: Intel(R) Xeon(R) Silver 4110 CPU @ 2.10GHz 2.10 GHz (2 pro
Installed memory (RAM): 32.0 GB (31.6 GB usable)
System type: 64-bit Operating System, x64-based processor

DOWNLOAD Mbps   UPLOAD Mbps

945.29   948.26

Ping ms   ⑤ 1   ⑫ 12   ↑ 61

Connections

Service Model

- [ ] *SaaS* w/ modular License
- [ ] Multi-Tenant Application
- [ ] Daily DB backup with 1' restore times
- [ ] All customers use same App+DB version
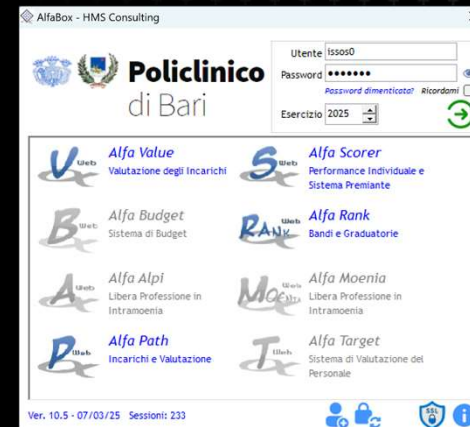
Outfit Speed

☐ **Trunk vs Tag**

▸ Trunk is updated continuously upon implementing Jira requests
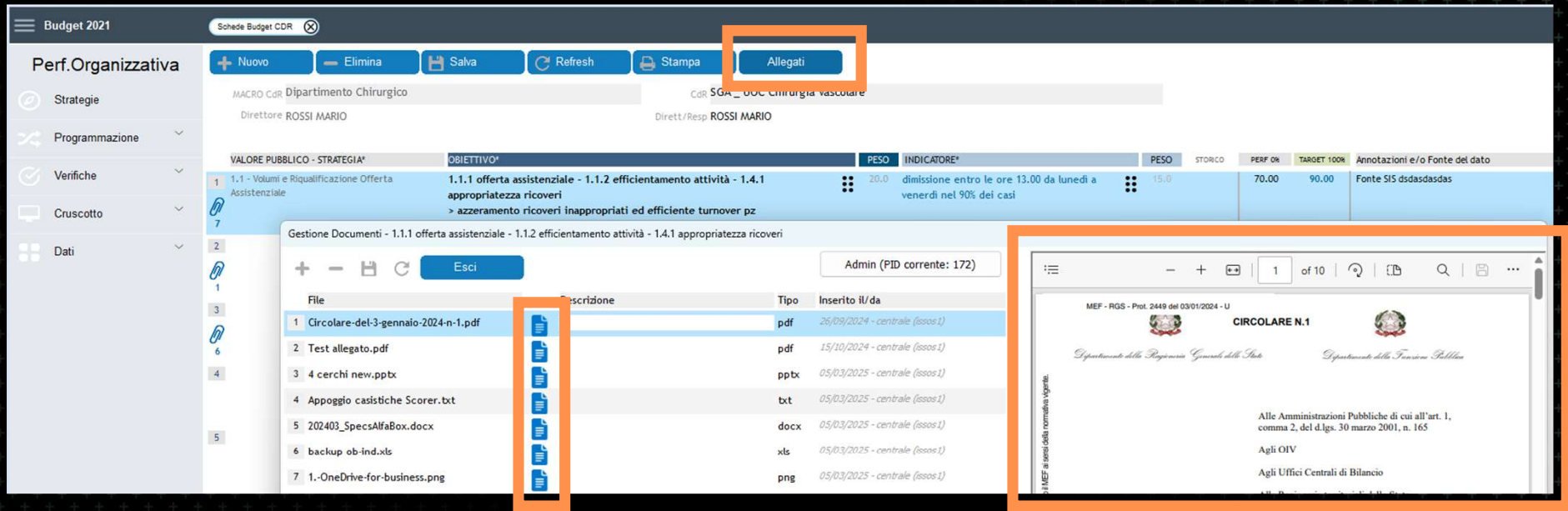
▸ Tag is the one - and only one - production version. Release on average each month

▸ Hotfix can be released at any time. PS IWA deploy (then) and PBAutobuild (now)

Interoperability

Document Repository: upload, download and preview features

Interoperability

Mailing: signup, Iforgot, password reset + strategic task-completed steps among personnel
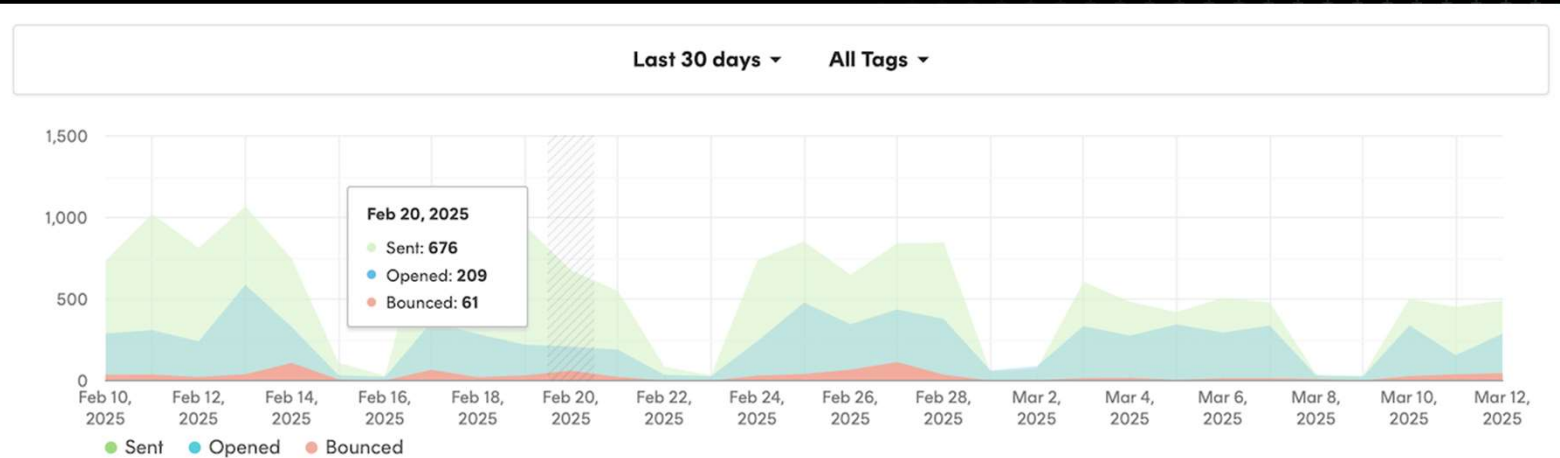
Interoperability

3 2FA: Two-factor access authentication (GDPR 2016/679 regulation for data protection)
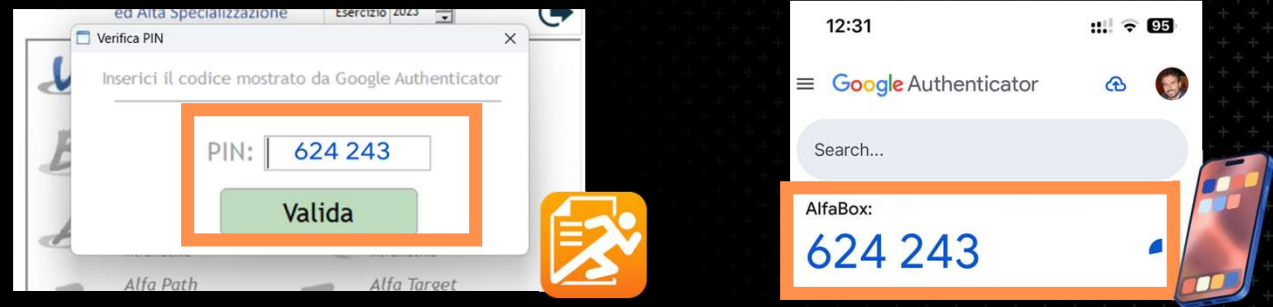
4 3rd-party Integration: exchange evaluation cards, patient invoices, medical records via REST API

5 LDAP: on-demand integration with corporate Active Directories for identity and permission management according to customer policies

Customer perspective

1. **Flexibility**: easy to customize in relation to specific customer needs

2. **Highest ROI**: small skilled team of 9 people

3. **Scalability**: increasing workloads maintaining performance, responsiveness

4. **Interoperability**: ability to integrate with other systems

5. **Efficiency**: easy integration of new customers in short time

6. **Intuitiveness**: good user experience for all levels of users

DataWindow, what else?

▶ Real time processing of thousands of employees' work performance and incentives distribution

User Experience

Demo

Summary

- AlfaBox is 14 year old multi-tenant PS app
- 60+ healthcare institutions, 50k+ users, up to 1k concurrent sessions
- Migration from IWA to ICA
  - State-of-the-art and scalable architecture (microservices, webdeploy, ...)
  - Extendable API-driven PS backend (UserExtensions, .NET datastore, …)
  - Can use PB features introduced over the last 3 years
  - No unsupported features
  - A PS debugger integrated and... working!
  - Appeon today (SD, .NET, REST API, ORM C#, PS,…): revolution of traditional PB programming with datastore-powered backend for webapp/mobile dev stacks
  - Improved self-confidence

Thank You