Talking Interoperability

In Focus | Brazil

Digital Convergence
USP2030

Digital Convergence
USP2030

Agenda

12:00–12:15	**Welcome**
12:15–13:00	**Presentation**
13:00–13:30	**Discussion**
13:30–13:55	**Audience Q&A**
13:55–14:00	**Closing remarks**

Digital Convergence
USP2030

Housekeeping rules

- Ask your questions in the Q&A box

- Share any comments or resources in the chat

- Simultaneous interpretation is available

Select the language in the interpretation icon on control bar

- Session will be recorded

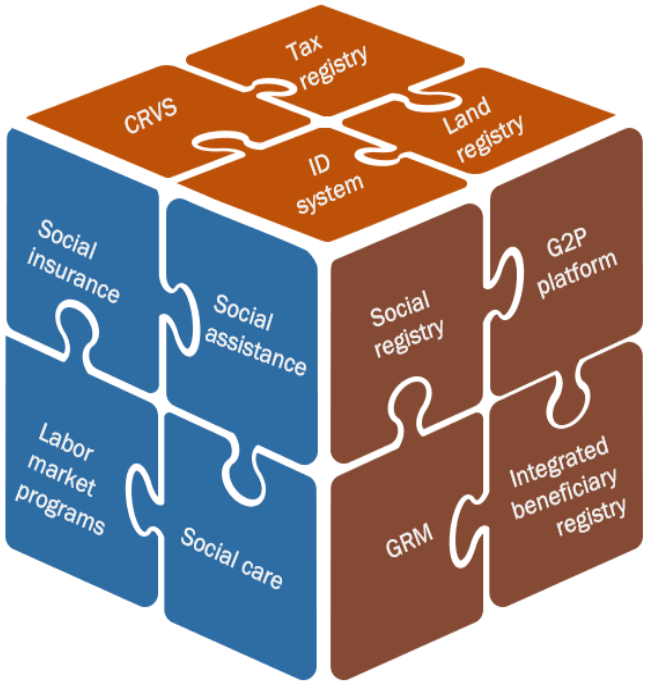
Digital Convergence
USP2030

The Digital Convergence Initiative (DCI)

A joint effort by USP2030 members and non-members, governments, development partners and private sector towards creating a harmonized and interoperable digital ecosystem for social protection

Building consensus-based standards for interoperability to

- **foster an ecosystem for innovation** by ICT solution providers to build products that are interoperable, easy to use, integrate, maintain and scale
- **reduce time and costs** of developing solutions at the country/program level
- enable programs and countries to **mix and match different components** from different suppliers
- **ensure that systems are future-proof by design**, regardless of current levels of policy and information systems maturity



Digital Convergence
USP2030

Talking interoperability

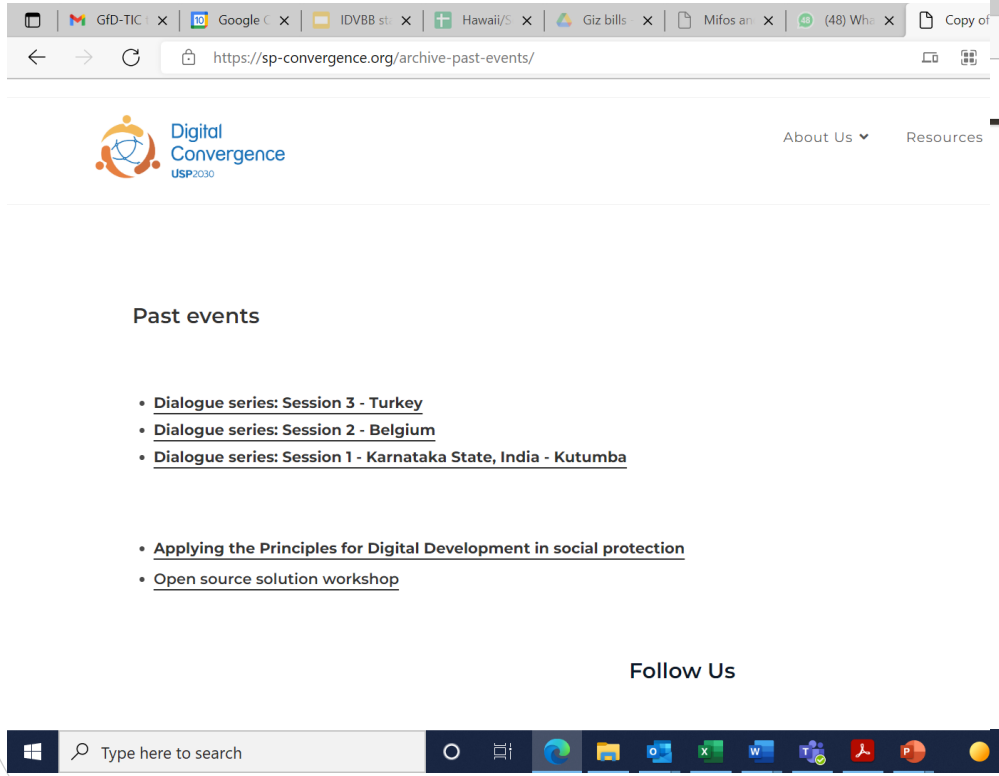
A monthly dialogue series by the DCI to facilitate in-depth technical conversations around integrated and interoperable SP information systems across countries

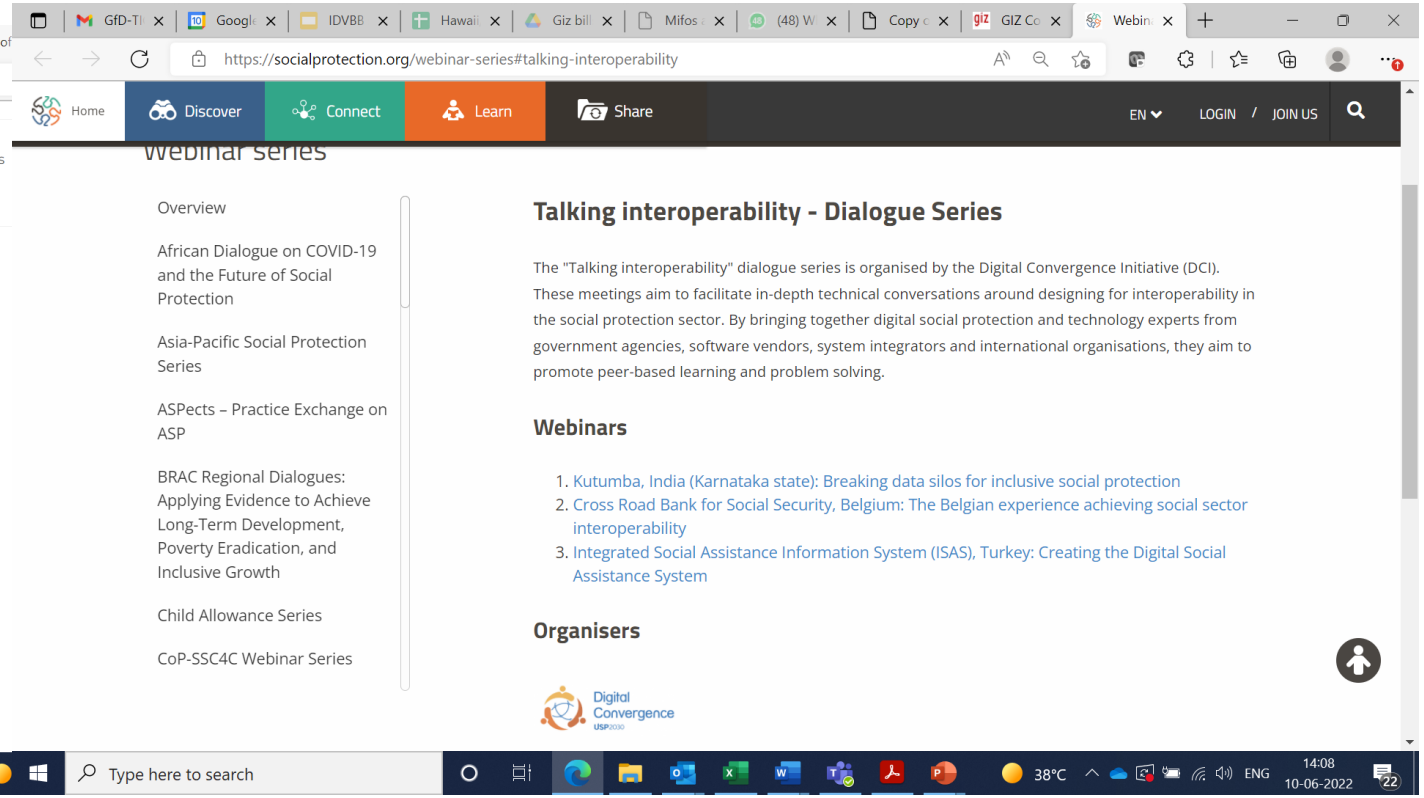
Deep dive into one country-level system per session to…

- share the technical nuts and bolts of how agencies have designed their social protection information systems for interoperability
- understand how agencies have tackled the major challenges to interoperability.
- brainstorm potential solutions to remaining bottlenecks

Digital Convergence
USP2030

Recordings of past sessions available





[Past Events – digital convergence initiative (sp-convergence.org)]

[https://socialprotection.org/webinar-series#talking-interoperability]

Digital Convergence USP2030

Introductions

Presenter

Gustavo Canuto

President Dataprev

Discussants

Philippe George Leite

Senior Social Protection Economist, World Bank

Verónica Achá Alvarez

Department Lead on Analysis of Social Information, Ministry of Social Development and Family

Moderator

Rodrigo Assumpção

Social Protection Management Information Systems Specialist, International Labour Organization

Digital Convergence
USP2030

Gustavo Canuto

President Dataprev

Digital Convergence
USP2030

Verónica Achá Alvarez

Department Lead on Analysis of Social Information, Ministry of Social Development and Family

Digital Convergence
USP2030

Philippe George Leite

Senior Social Protection Economist, World Bank

Digital Convergence
USP2030

Rodrigo Assumpção

Social Protection Management Information Systems Specialist, International Labour Organization

Digital Convergence
USP2030

Brazilian Emergency Benefit (Covid-19 pandemic)

GUSTAVO CANUTO
CEO

DATAPREV

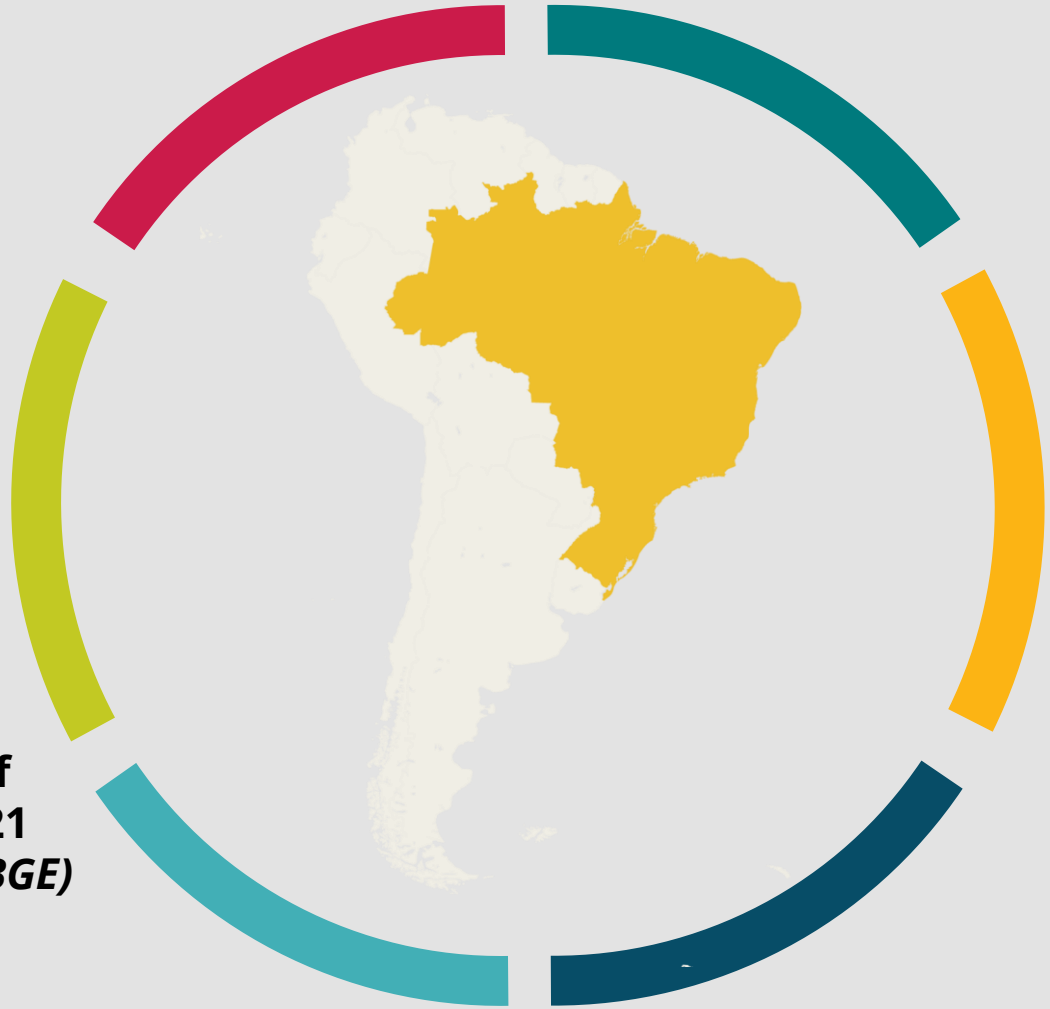
A fully state-owned company specially focused on providing ICT solutions for the improvement of Brazilian social policies

Brazil Context

Country
27 states
5,570 municipalities

Population
215,353,763
inhabitants
(IBGE projection 2022)

Poor population
62.9 million - 29.6% of
the population in 2021
(FGV Social - PNADC/IBGE)



Formal jobs
42,531,653
(CAGED 2022)

GDP
US$ 1,608,981 millions (2021)
US$ 7,518 per capita (2020)

Households
72.4 million households
(PNAD Continua 2019/IBGE)

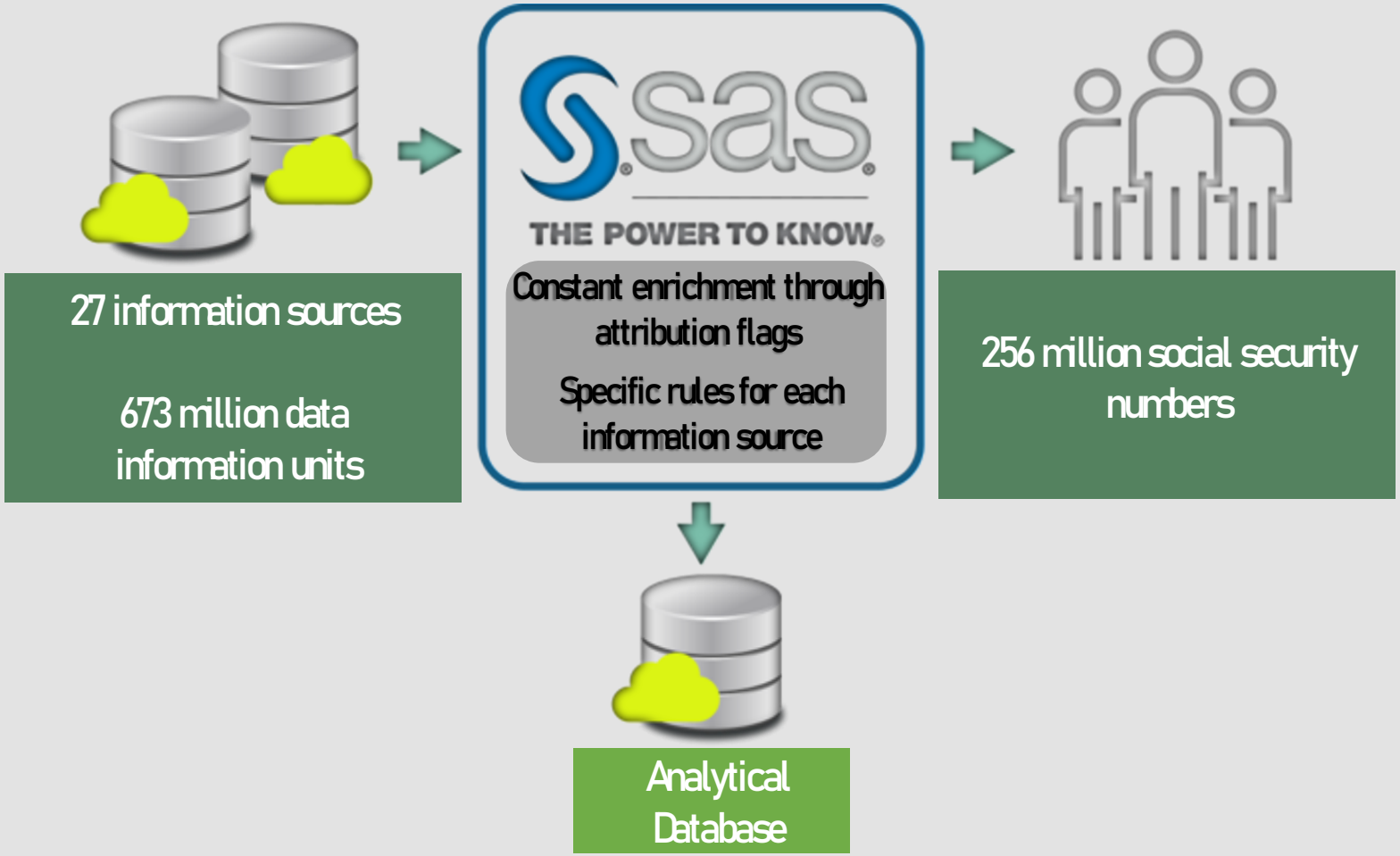
Emergency Benefit Challenges

- **UNPRECEDENTED** world-wide crises
- **NO TIME** for traditional software development methods
- Need to identify **MULTIPLE SCENARIOS**
- Need to specify **PROCESSING RULES** for all identified scenarios
- Need to work with **DIFFERENT DATABASES** with diverse origins, layouts and updates frequencies
- Use of **MODERN DATA ANALYTICS TOOL**
- Need to ensure **DATA PRIVACY & DATA PROTECTION**

Processing Challenges

- Multiple information sources with **DIFFERENT DATA QUALITIES**
- Need to update **ANALYTICAL DATABASE** on monthly basis to guarantee performance
- Need to provide **FULL TIME MONITORING SERVICE** to ensure data privacy and data protection
- Need to generate **STATISTIC SAMPLES OF THE RESULTS** for faster validation by Ministry of Citizenship
- Need to use the Central Bank format for **PAYROLL**
- Need to **DEVELOP NEW MODULES** for concession, consultation and contestation during the execution period
- Need to **PREVENT EXTERNAL FRAUD**
- Need to **CONTINUOUSLY IMPROVE MECHANISMS** for eligibility conditions

Analytical Process Development



27 Databases Analysed

DATAPREV

Unemployment Compensation Fund (FGTS) Contribution and Social Security Information Form Origin: Caixa Econômica Federal	Update: monthly	CNIS GFIP
CNIS Workers with Intermittent Link Origin: INSS	Update: monthly	CNIS Intermittent Link
Politically Exposed Basis Origin: Ministry of Economy	Update: eventual	Politically Exposed
Brazilians Living Abroad Basis Origin: Ministry of Citizenship	Update: eventual	Brazilians Living Abroad
Defence Basis Origin: Ministry of Citizenship	Update: eventual	Defence (Military)
Prisoners Basis of São Paulo State (Closed Prison Regime) Origin: Ministry of Citizenship	Update: eventual	Prisoners of São Paulo State
National Prison Department Basis (Open-Closed Regime) Origin: Ministry of Citizenship	Update: eventual	DEPEN / MJ – Prisoners
Taxable Profits Basis Origin: Serpro	Update: eventual	IRPF 2018 (Individuals Income Tax) (RFB – Brazilian Revenue Federal Office)
Emergence Benefit – BEm Origin: Brazilian Secretariat of Labor	Update: weekly	BEm
List of Public Governments Employees Cities and States Origin: CGU – Controller General of the Union	Update: eventual	Public Employess Cities and States
Microentrepreneus Individual Basis Origin: Serpro	Update: eventual	MEI
System for the Digital Registry of Tax, Pension and Labor Obligations (eSocial) Origin: Serpro	Update: online	CNIS eSocial
Annual Registry of Social Information Origin: Serpro	Update: annual	RAIS
Integrated System of People Management Origin: SGD / Serpro	Update: eventual	SIAPE

From CNIS: **8**
(Inside Dataprev)

External bases: **19**

Elected Candidates Mandates (Terms) (TSE)	Update: eventual	Elected Candidates and Alternates Weekly (Cities, States, Country) Origin: Public Basis
Single Registry of Social Programs	Update: eventual	Information Set About Brazilian Families Under Poverty and Extreme Poverty Situation Origin: Ministry of Citizenship
Bolsa Família Program (Assistance to Families)	Update: eventual	Payroll of Benefited People of Bolsa Família Program Origin: Ministry of Citizenship
Pension and Assistance Benefits	Update: monthly	Assistance and Pension Benefits (LOAS) Origin: Dataprev
Unemployment Insurance	Update: weekly	Information Basis of Received Installments by Citizens Registered under Unemployment Insurance Program – Competency and Values Origin: Dataprev
CNIS GPS	Update: 2nd Friday (monthly)	Social Security Guide (GPS), Collection Form of Individual Taxpayer Origin: Banks
SISOBI	Update: daily	Register of Deaths Computer-based System Origin: Registry Offices
SIRC	Update: daily	National System of Civil Registry of Information Origin: Registry Offices
Judiciary	Update: eventual	Judiciary for Retired Servants interns required Origin: Ministry of Citizenship
CNPQ	Update: eventual	CNPQ scholarship holders Origin: CNPQ
CAPES	Update: eventual	CAPES scholarship holders Origin: CAPES
FNDE	Update: eventual	FNDE scholarship holders Origin: FNDE
MEC	Update: eventual	MEC scholarship holders Origin: MEC

Public Databases Analysed

- Requests made through CAIXA Bank app and/or portal: 36.4 million
- Verification – Beneficiaries of the Bolsa Família Assistance Program, part of the Federal Government Cadastro Único (Single Registry Database): 24.9 million
- Missing middle: 35 million

CNIS

Identification of natural persons	Employers	Remuneration	Tax contributions	Labor links
443 million	69 million	28 billion	5 billion	1.2 billion

34.71 billion of data

Eligibility Engine

HIGH PERFORMANCE

5 cycles of data checks

Time optimization: 16 to 2 hours

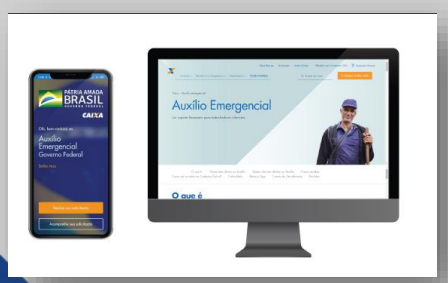
151,126,615
Requests of eligibility

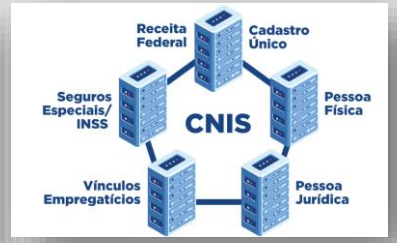
Analytical Database

Results Database
68 million beneficiaries
35 million missing middle

Complete Process for Citizens

1 2 3 4 5 6





CNIS: National Register of Social Information
CAIXA: Brazilian public bank
Ministério da Cidadania (Citizenship Ministry): Public policy manager

Why we achieved our goal

Dedicated Workforce

Engagement and social awareness of public employees

Experience

Experience of 48 years on managing social and welfare benefits

Information

National Registry of Social Information and Cadastro Único

Technology

Data Analytics
Big Data
AI | Blockchain

Infrastructure

3 data centers with international certification TIER III Operational Gold

Relationship

State-owned company with strong relationship with all government agencies and ministries

Achieved Results

Payments: 68 million
Reach: 118 million
(56% of Brazil's population)

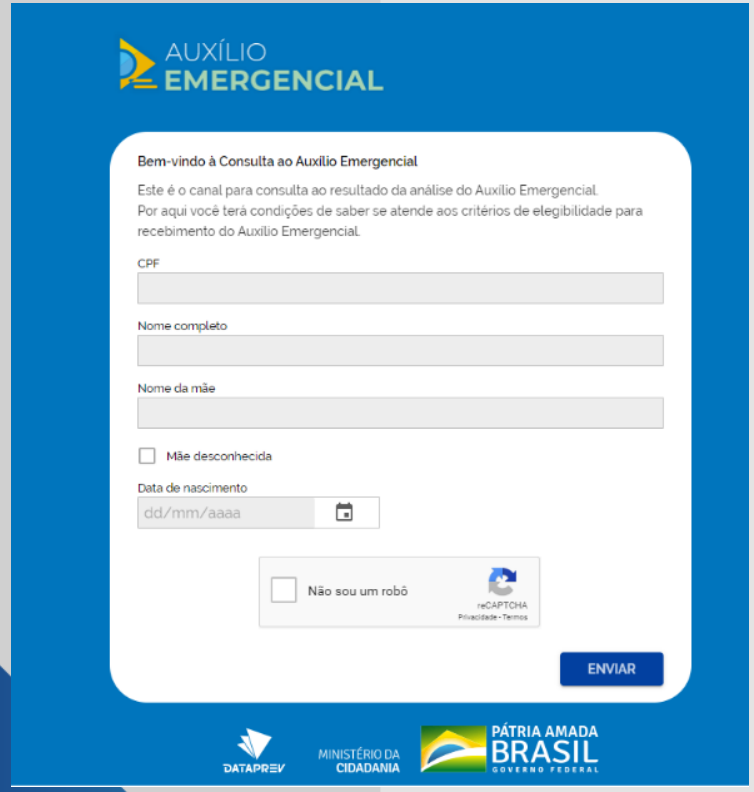
First payment:
11.9 million beneficiaries
Only 6 days after the law was published

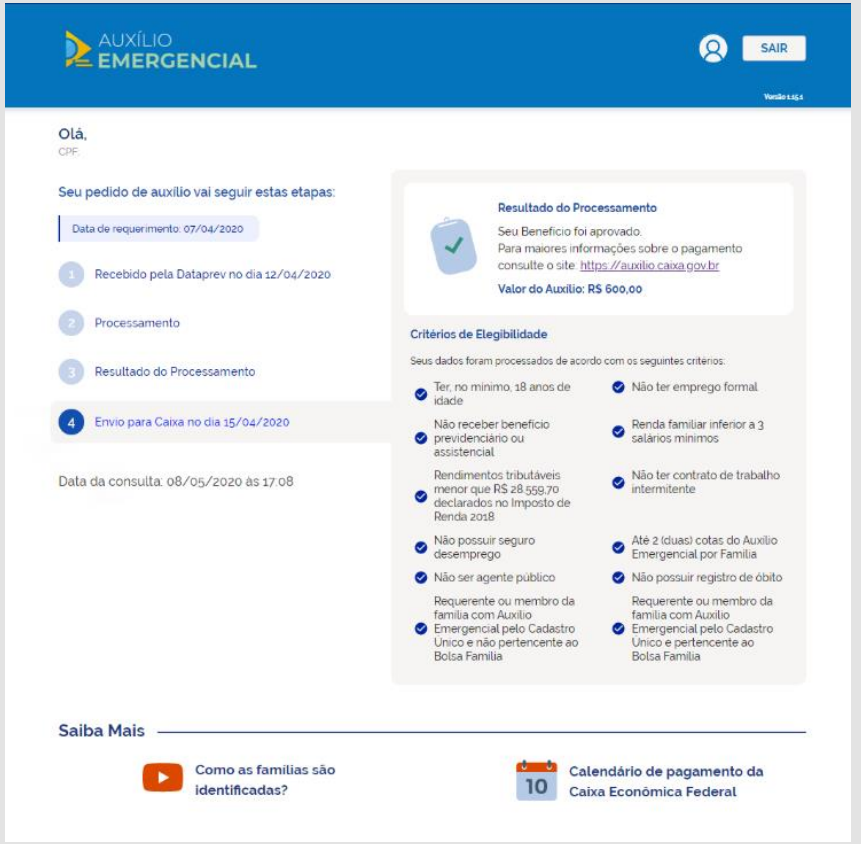
Program value:
US$ 42 billion
BRL$ 235 billion
(3.2% of Brazilian GDP)

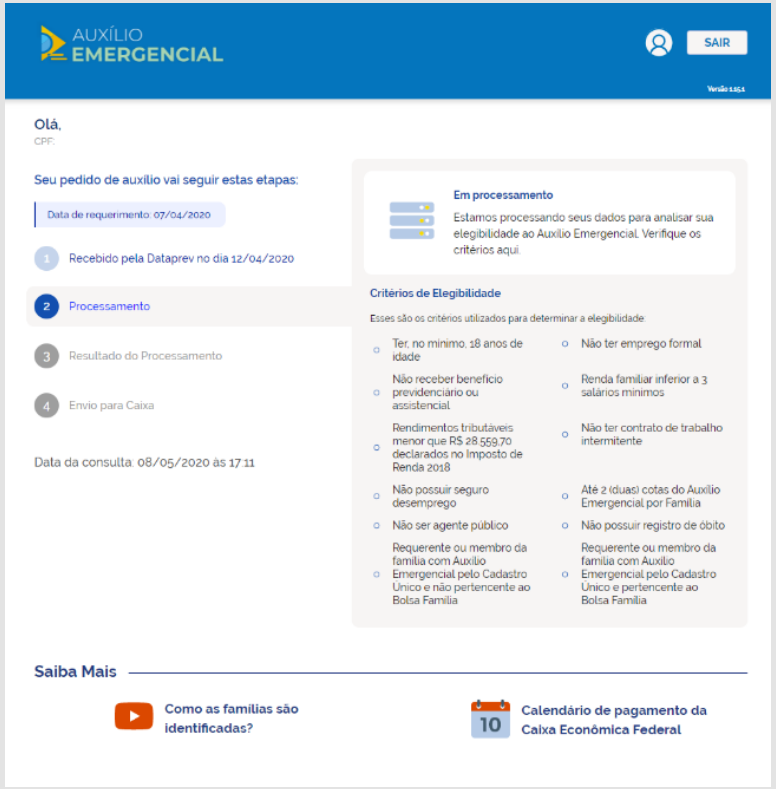
Processing:
+ 151 million requirements
(99% processed in the first 3 months)

Citizen Interface

TRANSPARENCY OF THE PROCESS



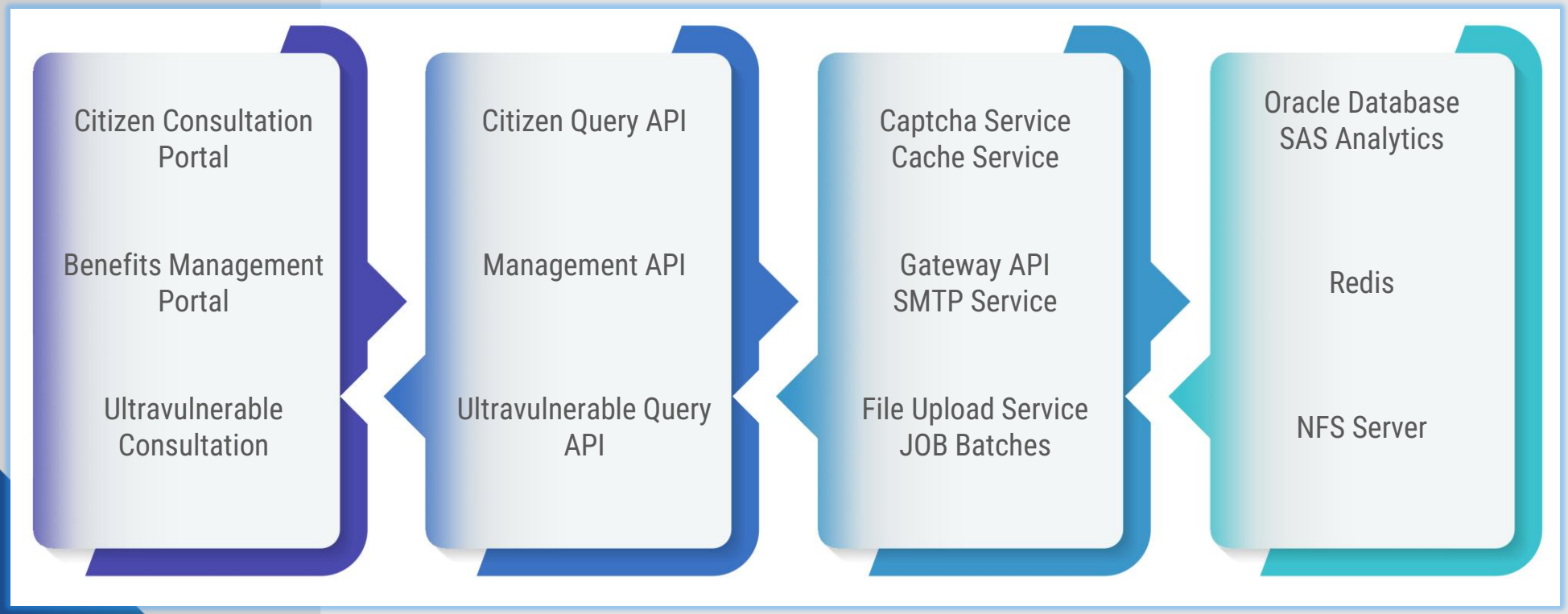




Development of **18 technological modules** on the consultation portal

Different interfaces for policy managers, control and inspection institutions and citizens

Architecture



TECHNOLOGY

UI
JS/HTML/CSS (React)

BACKEND
Java (Spring Boot)

DATA STORAGE
RDBMS (Oracle)
Cache (Redis)
File System (NFS)
Data Lake (SAS)

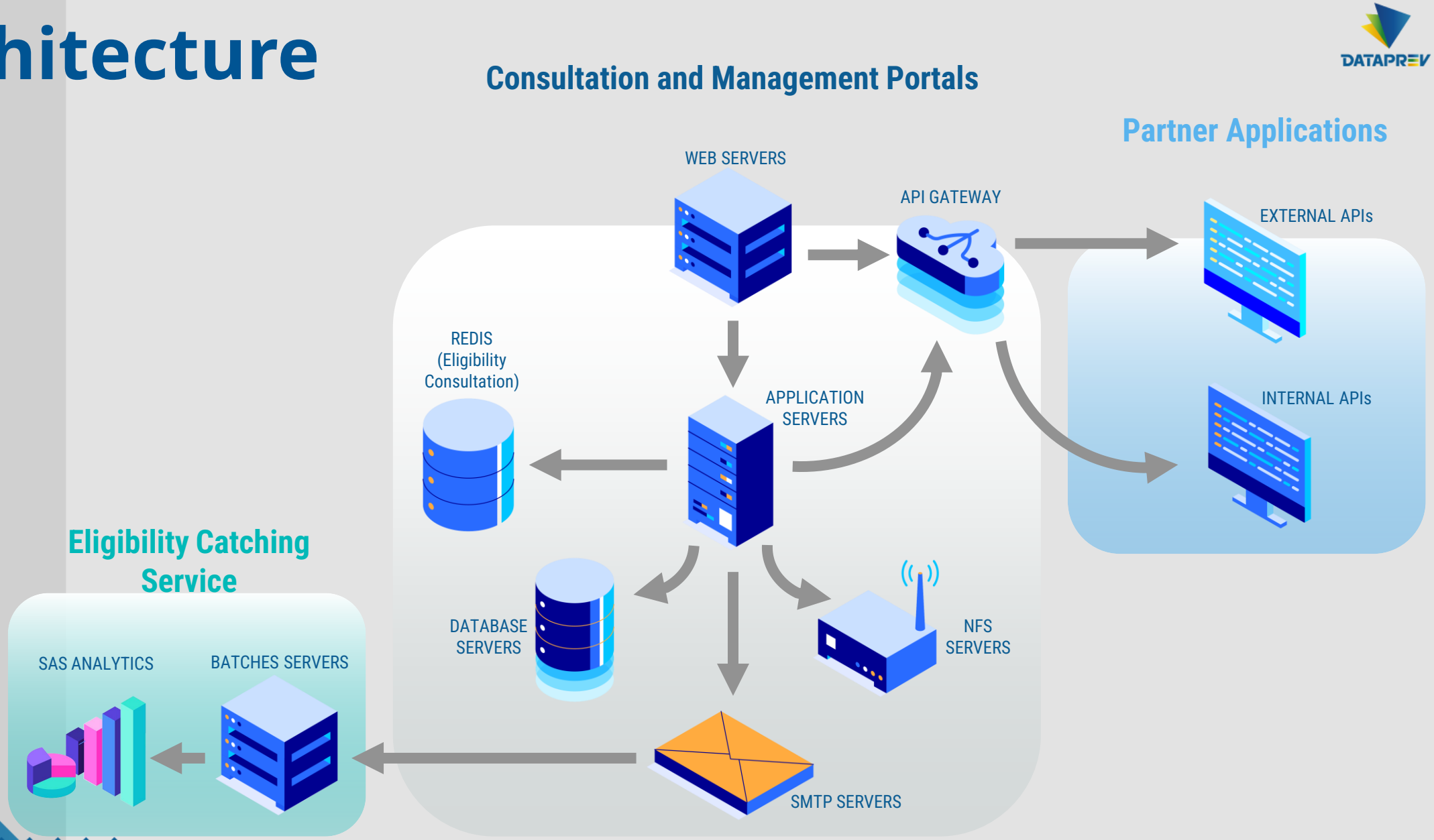
STORAGE CAPACITY

Database ~ 10 TB

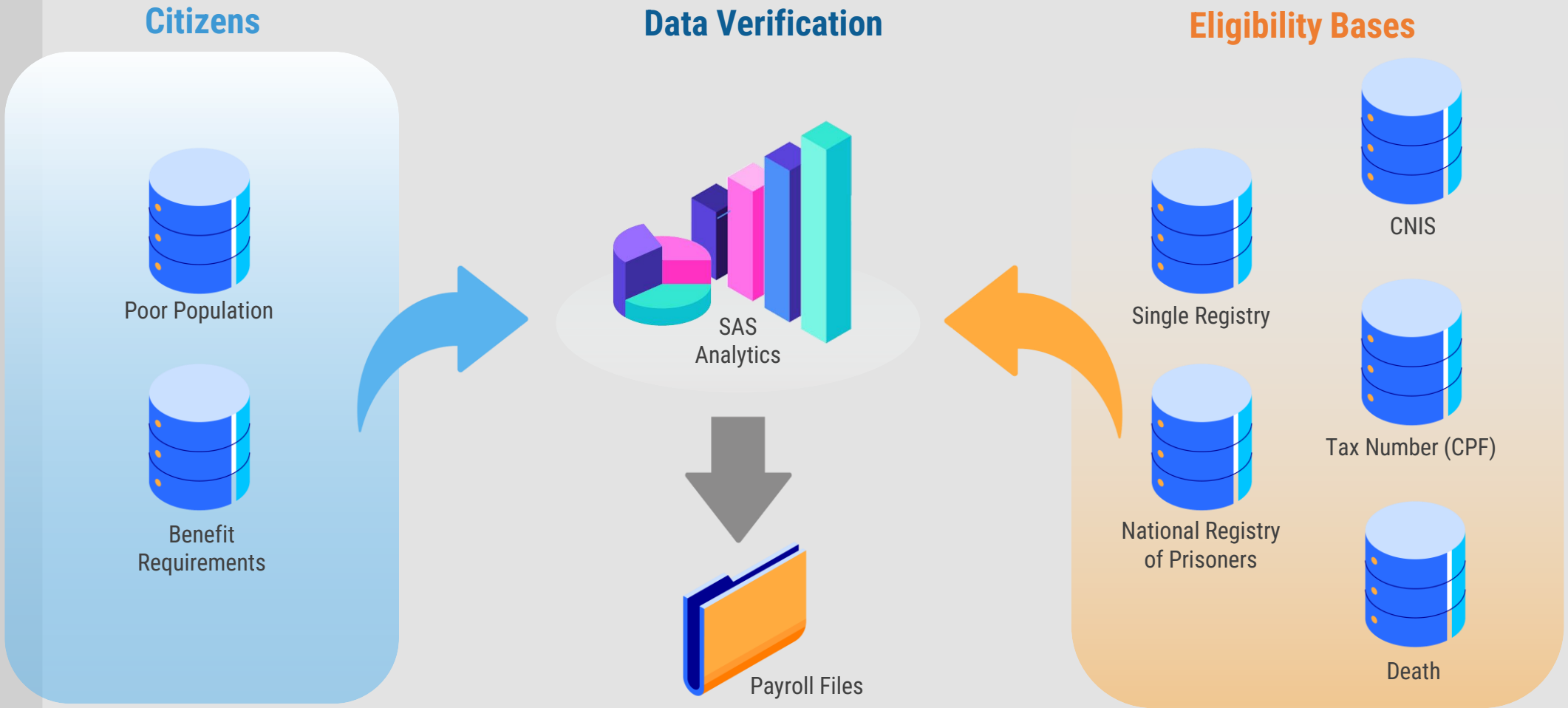
File System ~ 500 GB

Cache Size ~ 512 GB

Architecture

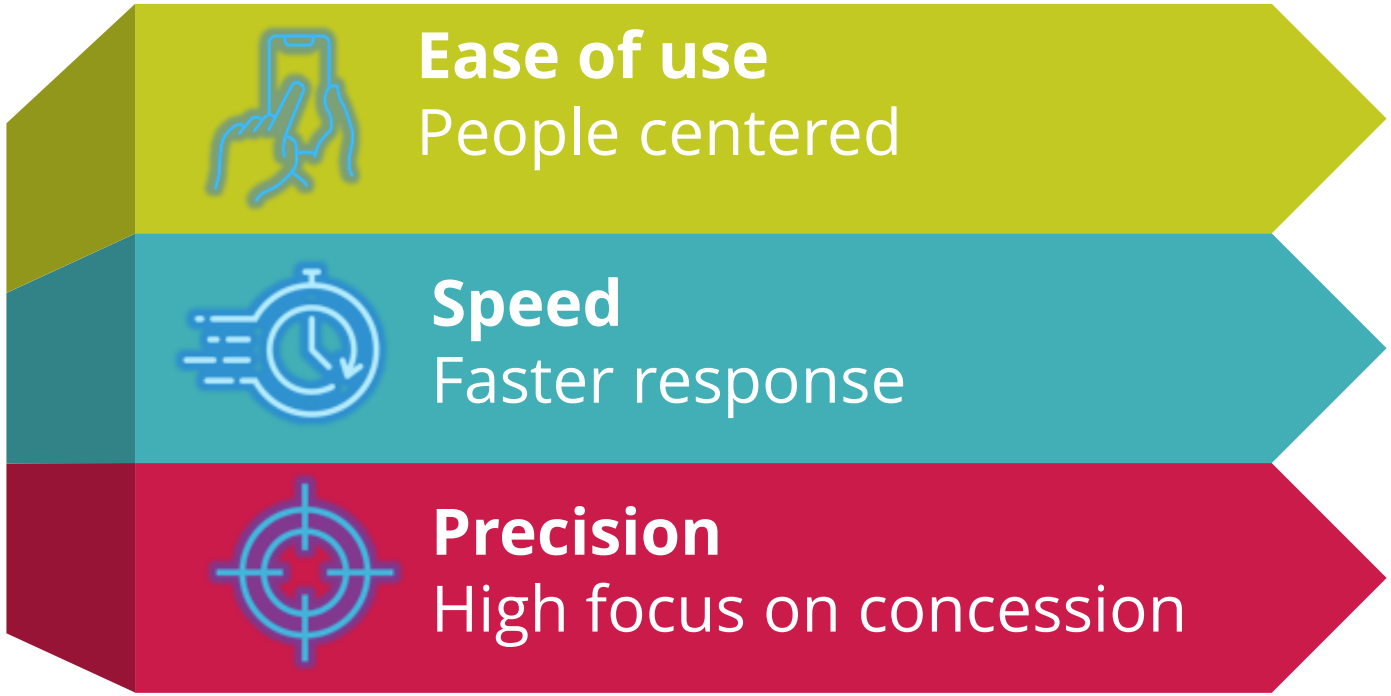


Architecture

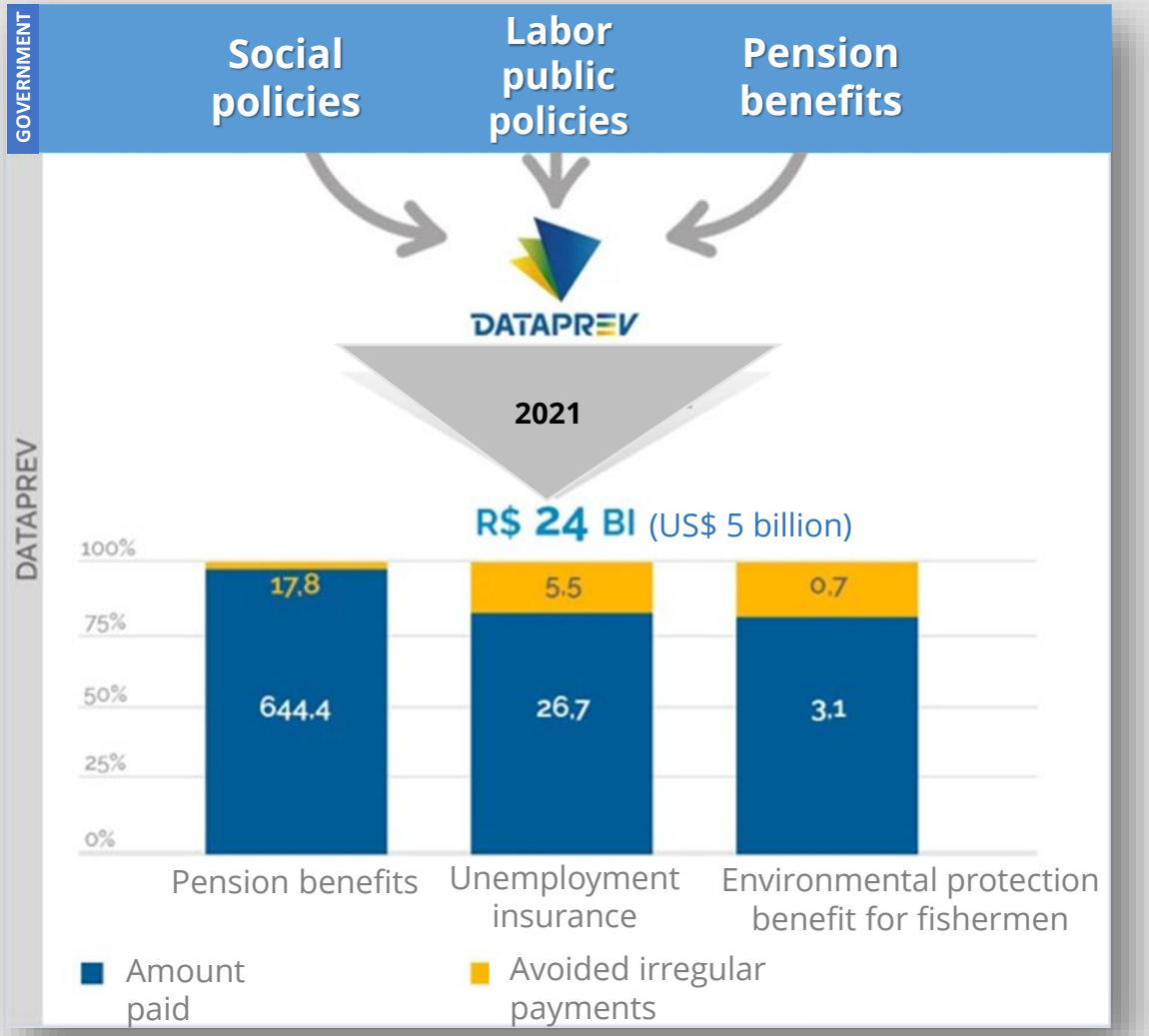


Lessons Learned - Constant Evolution

With specialized technology, Dataprev contributes to social public policies providing:



Evolution


GOVERNMENT
Social policies
Labor public policies
Pension benefits
DATAPREV
2021
DATAPREV
R$ 24 BI (US$ 5 billion)
100%
75%
50%
25%
0%
17,8
644,4
5,5
26,7
0,7
3,1
Pension benefits
Unemployment insurance
Environmental protection benefit for fishermen
Amount paid
Avoided irregular payments

Easier

Faster

Level of automatic requirements processed

2020	2021	2022
8%	28%	+40%

Growth
2020 – 2022

5x

August 2022

Highest number of requests dispatched in a month

550 thousand

More than 130 thousands dispatched automatically

Initial recognition queue INSS Reset until 2023

- Attendance **+ faster and efficient**
- **Servers dedicated to more complex cases**
- Savings with **reduced face-to-face service**

**** Dataprev is a partner of the Ministry of Labor and Social Security and the National Institute of Social Security (INSS) and aims to eliminate the Social Security queue with technological solutions and accumulated experience.***

Easier

Faster

DATAPREV

My INSS

39,4 million visits monthly

112 digital services

X

1,8 million face-to-face visits monthly

1,586 physical agencies

Period: January to September 2022

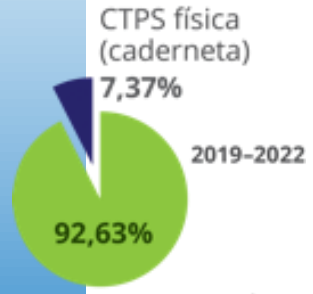
Digital Workbook

52,8 million visits monthly

25 digital services

15.7 million Digital CTPS enabled

X

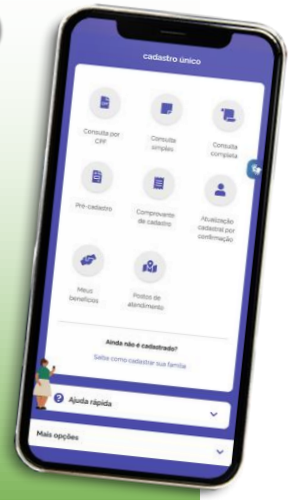


2,804 physical documents

Period: January to September 2022

Cadastro Único

2 million visits monthly



10 digital services

6 million downloads

Period: March to September 2022

Thank you!

Thank you

Make sure to answer our survey which will appear on your browser, and join us for the next sessions!

+ know more and become a member of

socialprotection.org