



Federico Gonzalez-Waite

Lessons learnt from Open-Source
Implementation in the Mexican
Government

I'm speaking at >>

socallinuxexpo.org

SCALE **2022**
MAR 6-9



Federico Gonzalez Waite

About Me:

I am a Mexican/Kiwi professional educated in New Zealand, Estonia, France, Israel, and the United States. I am dedicated to the digital transformation and social inclusion of LATAM.

Over 9 years, I had the privilege of serving my country in High-Level IT roles within the Federal Government including CEO of the National Research and Innovation for ICT of Mexico.

Lead the way in implementing Open-Source solutions in Govt such as the: National Agriculture Producers Registry, Core Banking, Passport and HPC Research Network.

Currently on a sanity break from govt, helping others with their Digital Transformations and product development. I´m always open to new interesting opportunities, feel free to connect!



WHAT WILL I COVER?

- WHY OPEN-SOURCE FOR GOVT?
- GOVT STRUCTURE & LEGAL FRAMEWORK DRIVING OS ADOPTION
- EXAMPLES
 - FOREIGN AFFAIRS
 - CORE BANKING (MIFOS)
 - OS EDUCATION
- LESSONS LEARNT
- QUESTIONS & OPEN DISCUSSION

WHY OPEN SOURCE FOR GOVT?

- REDUCE COST
- AUSTERITY PLAN
- IT SOVEREIGNTY
 - GENERATE INTERNAL GOVT CAPACITY (**TALENT** AND ASSETS)
- TRANSITION FROM AN IT CONSUMER NATION TO AN IT GENERATOR
- SELF SUFFICIENT AND INDEPENDENT FROM "BRANDS" (NO MORE VENDOR LOCK INS)
- STANDARDISE GOVT TECHNOLOGY

DIGITAL TRANSFORMATION LEADERS 2018-2024



INFOTEC IS A FUNDAMENTAL INSTITUTION OF THE MEXICAN GOVERNMENT TO ATTEND TO NATIONAL ISSUES FOR THE BENEFIT OF MEXICAN SOCIETY.

IT SERVICE PROVIDER FROM THE GOVT TO THE GOVT. PROVIDED SERVICES TO OVER 30 AGENCIAS AT A TIME. MAINLY FOCUSED ON STRATEGIC PROJECTS

- RESEARCH & INNOVATION
- EDUCATION
- INFRASTRUCTURE DEPLOYMENT (DATA CENTER SERVICES & TELECOMMUNICATIONS)
- SOFTWARE DEVELOPMENT
- COLLABORATION WITH IT GIANTS

**PRESIDENT'S
OFFICE OF
DIGITAL STRATEGY**

CTOs

TRANSFORM THE FEDERAL PUBLIC ADMINISTRATION THROUGH THE USE OF ICT TO ENHANCE AND MAKE GOVERNMENT SERVICES PROVIDED TO CITIZENS MORE TRANSPARENT.
PRIORITIZE THE USE OF OPEN-SOURCE SOFTWARE AND OPEN STANDARDS

**NATIONAL COUNCIL OF
HUMANITIES, SCIENCES
& TECHNOLOGIES**

DEVELOPMENT OF CUTTING-EDGE STRATEGIC TECHNOLOGIES AND PROMOTION OF OPEN INNOVATION.

PROMOTE UNIVERSAL ACCESS TO HUMANISTIC AND SCIENTIFIC KNOWLEDGE AND ITS SOCIAL BENEFITS.

**INTERNET FOR
ALL**

ESTABLISH A NON-PROFIT PUBLIC TELECOMMUNICATIONS NETWORK.

PROMOTE AND FACILITATE THE SOCIAL AND ECONOMIC DEVELOPMENT OF THE POPULATION THROUGH THE PROVISION OF TELECOMMUNICATIONS SERVICES.

HOW MEXICAN LAW PROMOTES OPEN SOURCE?

AGREEMENT BY WHICH THE POLICIES AND PROVISIONS ARE ISSUED TO PROMOTE THE USE OF INFORMATION TECHNOLOGY, DIGITAL GOVERNMENT, INFORMATION AND COMMUNICATION TECHNOLOGIES, AND INFORMATION SECURITY IN THE FEDERAL PUBLIC ADMINISTRATION. (06/09/2021)

"Article 61.- Institutions may implement general-purpose computing applications from public repositories of open-source software, provided they have the characteristics required for the exercise of public functions and represent a technological benefit that generates real savings for the Mexican State. In turn, Institutions may collaborate with projects and initiatives for the development of open-source software in accordance with Mexican regulations on the matter."

HOW MEXICAN LAW PROMOTES OPEN SOURCE?

GENERAL LAW ON HUMANITIES, SCIENCES, TECHNOLOGIES AND INNOVATION
(08/05/2023)

*"Article 11.- ...The consolidation of digital government and citizenship through the development and implementation of information technologies, in particular **open-source software**, aimed at the continuous improvement of public services, as well as compliance with the principles of austerity, efficiency, effectiveness, economy, transparency, and honesty for the administration of public resources..."*

*"Article 81.- Public Centres are fundamental institutions for achieving and consolidating the country's scientific and technological independence. They will provide the Mexican government with scientific knowledge and its technological applications for the **comprehensive attention of national problems....**"*

HOW MEXICAN LAW PROMOTES OPEN SOURCE?

FEDERAL REPUBLICAN AUSTERITY LAW (19/11/2019)

*"Article 16: ...Procurement and leasing of computing equipment and systems will be carried out only in justified scenarios, based on modernization plans and **prioritizing the use of open-source software**, provided that it meets the requirements for the exercise of public functions..."*

GENERAL LAW FOR THE PROTECTION OF PERSONAL DATA IN POSSESSION OF OBLIGATED PARTIES (26/01/2017)

*"Article 63: The responsible party may contract or adhere to services, applications, and **infrastructure in cloud computing**, and other matters that involve the processing of personal data, **provided that the external provider guarantees personal data protection policies** equivalent to the principles and duties established in this Law and other provisions that are applicable in the matter."*

OPEN-SOURCE Examples in Mex Govt

FOREIGN AFFAIRS

DATABASE – OUT WITH ORACLE IN WITH POSTGRES (INTIMIDATION & AUDITS)

- DEPURATION OF DATA – TRUE CONTROL OF DATA AND WHAT WE STORED
- COMPLETE ARCHITECTURE REBUILD – SEGMENTED DATA FOR BETTER SECURITY AND COMPLIANCE
- COST REDUCTION
- FLEXIBILITY & AVAILABILITY (REPORTS WERE LIMITED BY THE SERVICE PROVIDER)

NATIONAL SECURITY DATA

PERSONAL DATA

SENSIBLE DATA

PASSPORTS APPOINTMENT & EMISSION PLATFORM (Confidential)

OPEN-SOURCE EDUCATION

SUPERIOR TECHNICAL EDUCATION

OPEN-SOURCE SOFTWARE DEVELOPMENT

CYBERSECURITY

CLOUD COMPUTING

DATA CENTRE OPERATIONS

2 YEAR ONLINE PROGRAMS WITH PRACTICAL WORK WITHIN THE GOVERNMENT (FEDERAL, STATE OR LOCAL)

IT BASICS FOR ALL

BOOTCAMP

SOFTWARE DEVELOPMENT BOOTCAMP

CYBERSECURITY BOOTCAMP

FAST TRACK PROGRAMMES

22 WEEKS TRAINING ONLINE

NON-BRANDED CONTENT (AIM TO REMOVE HANDICAP BY LARGE IT COMPANIES)

OPEN-SOURCE EDUCATION

SUPERIOR TECHNICAL EDUCATION - EL SALVADOR

ESCUELA SUPERIOR DE INNOVACIÓN Y
TECNOLOGÍA. REPÚBLICA DE EL
SALVADOR

+ 5,000 PEOPLE ENROLLED



CYBERSECURITY FUNDAMENTALS

PROGRAMMES DESIGNED FOR GOVERNMENT
OFFICIALS (NON-TECH PROFILE)

OVER 3,000 TRAINED (OS TOOLS)

OS BANKING FOR MEXICAN GOVERNMENT?

THE FOLLOWING IS THE RESULT OF AN ANALYSIS OF OPERATING COSTS NECESSARY TO MAINTAIN THE OPERATION OF LEGACY BANKING CORE:

	2017 *USD	2018 *USD	2019 *USD	2020 *USD
DATA CENTER (MAINFRAME)	\$ 12.6	\$ 22.9	\$ 19.4	\$ 18.1
MAINTENANCE	\$ 5.9	\$ 539	\$ 7.3	\$ 8.3
CORE				
LICENSING	\$.06	\$ 1.1	\$.2	N/A
THIRD PARTY PLATFORMS	\$ 3.5	\$ 2.3	\$ 3.7	\$ 1.9
OVERALL TOTAL	\$ 22.2	\$ 32.4	\$ 30.8	\$ 28.4

CURRENTLY MEXICO HAS

8

NATIONAL DEVELOPMENT
BANKS.

2,276,000,000 PESOS

=

TO THE BUDGET GIVEN TO

9

FEDERAL RESEARCH CENTERS
IN 2025

ABOUT MIFOS



IS A **PARTNER AND COMMUNITY-DRIVEN INITIATIVE** THAT IS **POSITIONING FINANCIAL INSTITUTIONS** TO BECOME MODERN AND DIGITALLY CONNECTED PROVIDERS OF **FINANCIAL SERVICES TO THE POOR.**

MISSION

TO SPEED UP THE **ELIMINATION OF POVERTY** BY COORDINATING A GLOBAL COMMUNITY THAT BUILDS, SUPPORTS, AND USES MIFOS X, **A FREE AND OPEN SOURCE PLATFORM** THAT ENABLES **FINANCIAL SERVICE PROVIDERS** TO MORE EFFECTIVELY AND EFFICIENTLY DELIVER **RESPONSIBLE FINANCIAL SERVICES TO THE WORLD'S 2 BILLION POOR AND UNBANKED.**



BIGGEST CHALLENGE

REGULATORY ENTITIES
COMMUNITY RETURNS.



MIFOS + Govt Mx Banking Platform

SCENARIO 1

1,700 BRANCHES COUNTRY WIDE

2.7 MILLION HISTORIC RECORD IMPORTED
FOR DEBT RECOVERY

10 MILLION REPAYMENT TRANSACTIONS

58,000 LOAN APPLICATIONS FILED IN **5 DAYS**

SUCCESS

SCENARIO 2

2,000 BRANCHES COUNTRY WIDE

20 MILLION USERS

UP TO **4 MILLION** CARD TRANSACTIONS

UP TO **5,000 INTERBANK TRANSACTIONS** PER
SECOND

150,000 LOAN APPLICATIONS FILED IN **1 WEEK**

Cancelled Project
WHY???

OTHER OPEN-SOURCE PROJECTS

- RED ATO – HPC RESEARCH NETWORK THAT PROVIDES HPC RESOURCES FOR THE ACADEMIC & SCIENTIFIC COMMUNITY OF MEXICO (OPENSTACK, OS MONITORING AND SECURITY)
- NUBE BY INFOTEC – GOVERNMENT CLOUD SERVICES – (OPENSTACK)
- OS COMMUNITY – CLOSED TO GOVT AGENCIES
 - BUSINESS MANAGEMENT SOFTWARE
 - PAYROLL SYSTEM
 - GOVERNMENT RESOURCE PLANNING (BASED ON iDempiere ERP)
 - PROCUREMENT AND CONTRACT (E-SIGNATURE) (OS LIBRARIES AND DB)
 - ONLINE PROCEDURE ENGINE – GOVT AUTHORIZATIONS AND CERTIFICATIONS

NEW GOVT STRUCTURE 2024-2030

NATIONAL AGENCY OF DIGITAL TRANSFORMATION & COMMUNICATIONS

KEY OBJECTIVES

- Drive Government Digital Transformation & Efficiency.
- Expand National Digital Inclusion & Access.
- Improve Public Service Delivery Through Technology.
- Strengthen National Technology & Space Infrastructure.
- Ensure Secure Government Telecommunications & Cybersecurity.

STRUCTURE:

- Mexican Postal Service
- Mexican Space Agency
- National Commission for Regulatory Improvement
- INFOTEC
- Promoter of Investments in Telecommunications

NO SPECIFIC MENTIONS OF OPEN SOURCE NOR OPEN SOURCE TECHNOLOGY
IN THE PUBLISHED REGULATION SINCE OCT 2025

LESSONS – TRANSFORMATION BARRIERS

REGULATION HELPED BUT WASN'T THE SOLUTION

- **FEAR** - LACK OF KNOWLEDGE/AWARENESS – **LEGAL FEAR**
- **TECH BLAME** – IT IS ALWAYS THE PROBLEM
 - TECH OBSOLESCENCE & QUALITY OF DATA & ACCESSIBILITY WAS A BIG PROBLEM
 - POOR LEADERSHIP IN THE CHANGE MANAGEMENT PROCESS,
 - BAD PRODUCT DEFINITIONS UNDEFINED AND UNKNOWN PROCESSES
- **NO MONEY** – NO BUDGETS FOR FUTURE NEEDS AND SUPPORT
- **GENERAL GOVT CAPACITY** - TALENT AND ASSETS
- **VENDOR PREFERENCE** – FAMILIARITY WITH TECH & OTHER PERSONAL MOTIVES

BIGGEST LESSON LEARNT

WINS BIG AND LOOSE BIG

**THERE WAS NEVER A TECHNOLOGICAL
OR REGULATORY PROBLEM THAT COULDN'T BE FIXED.**

UNFORTUNATELY MOST LOSS SCENARIOS ENDED IN SITUATIONS WHERE
LOGICAL ARGUMENTS FAILED DUE TO ALTERNATIVE MOTIVES

LEADERSHIP & CHAMPION WAS KEY FOR THE WINS

(AT ALL LEVELS & STAGES OF THE TRANSFORMATION PROCESS)



QUESTIONS

&

Open Discussion

SCALE



THANK YOU



federicowaite



GW

INNOVATION & SECURITY

Why reinvent the wheel?