

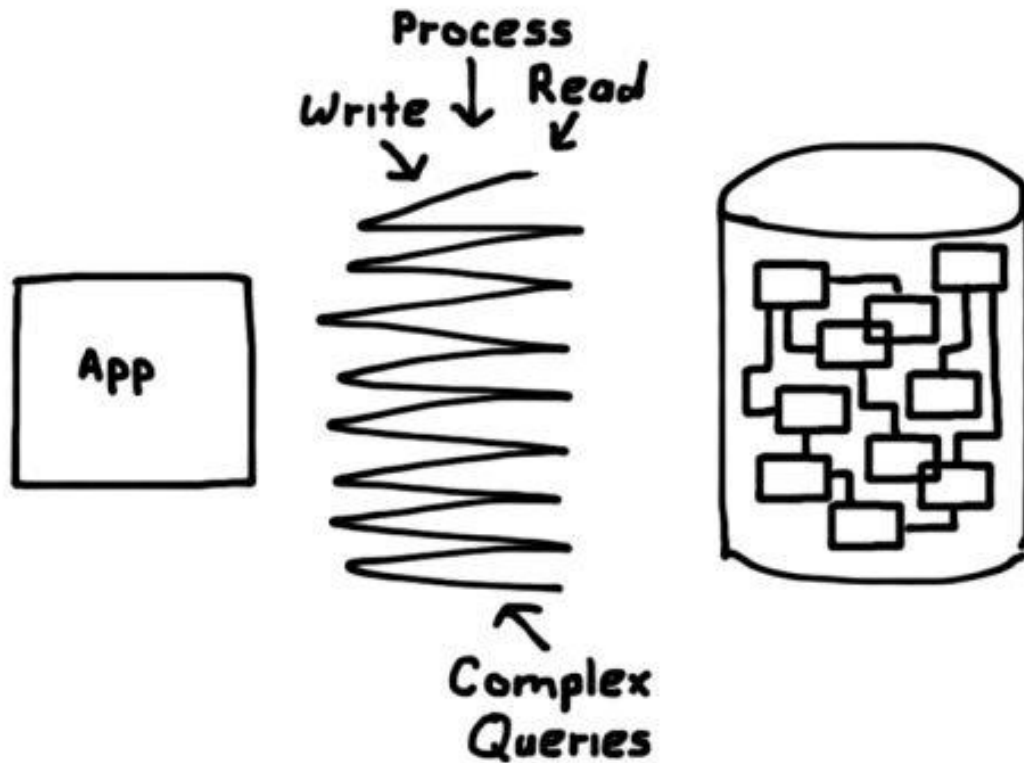


IST – data integration metadata driven concept

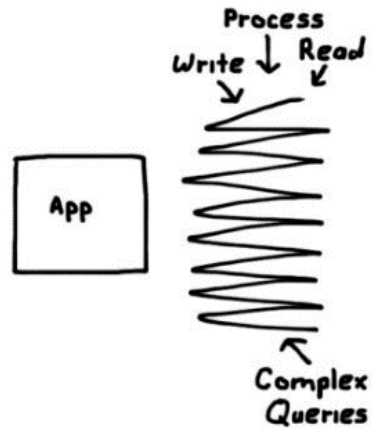
September 2019

RETROSPECTIVE – STOVEPIPE PRINCIP

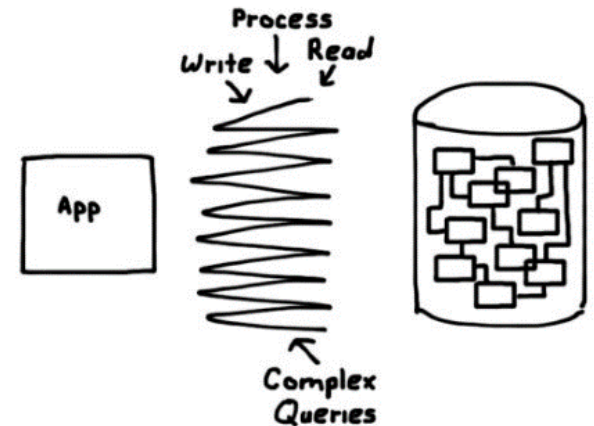
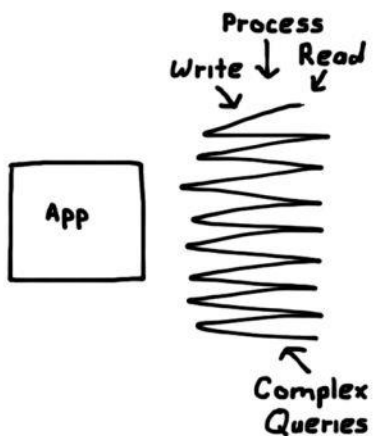
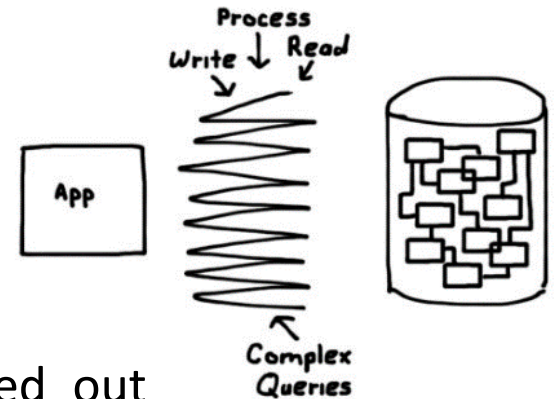
The traditional and well known method of data statistical survey where the entire process takes place separately for each survey - from data entry to the publication of the final results



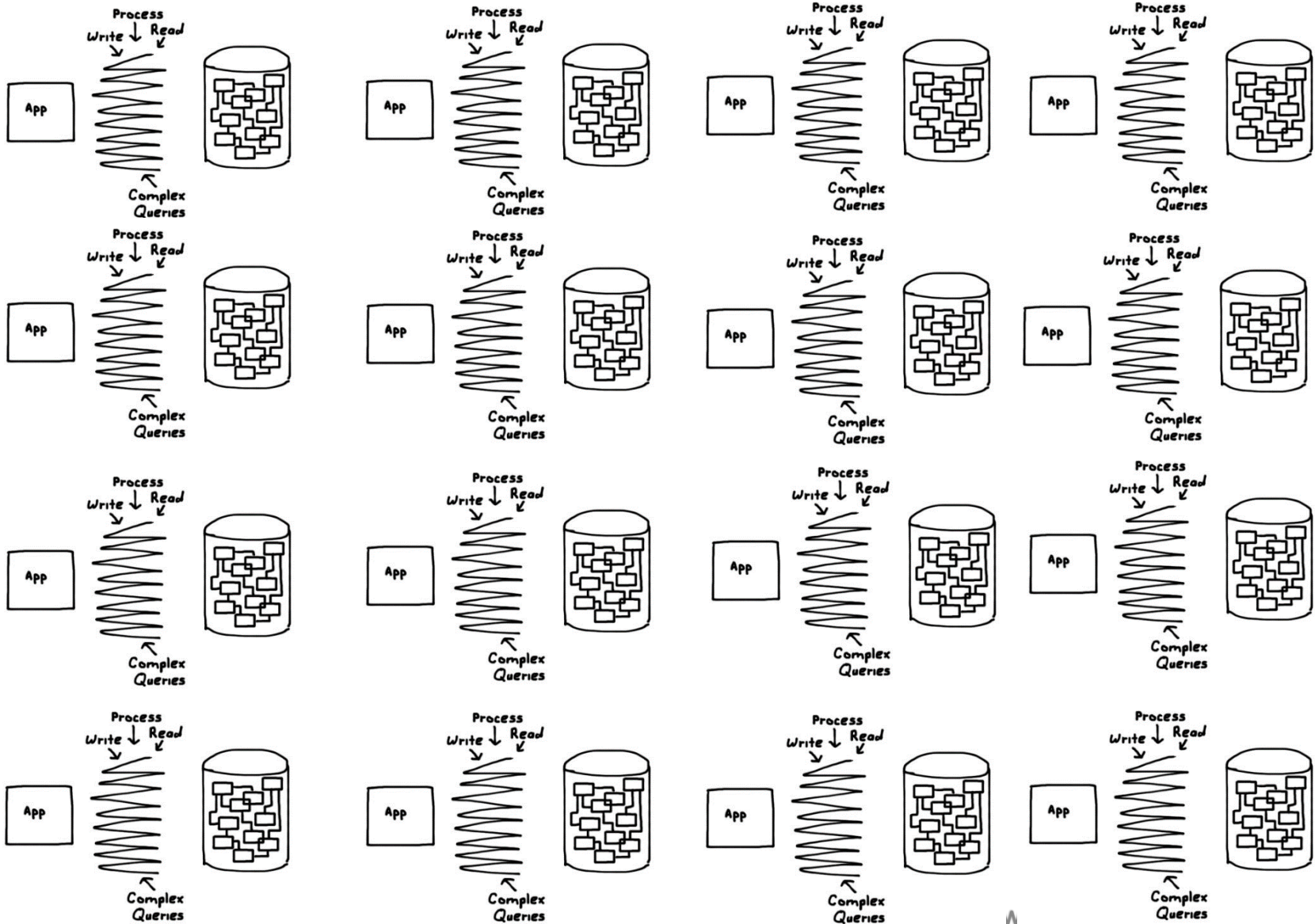
RETROSPECTIVE – STOVEPIPE PRINCIP



Statistical data processing is carried out on different platforms, with the use of various software tools, data are stored in different ways, separately for each survey, and what is worse - separately for each statistical phase



RETROSPECTIVE – STOVEPIPE PRINCIP



What if we could ...

.. conduct statistical surveys with minimal programming possible ... or better yet, with no real programming at all?

... to have a development environment in which the applications are uniform, standardized, easy to create and independent of the rapidity of technological change (new development tools, programming languages, platforms ...)?

... use a simple and elegant software system (package) to facilitate our (methodologists) and their (IT support) life?

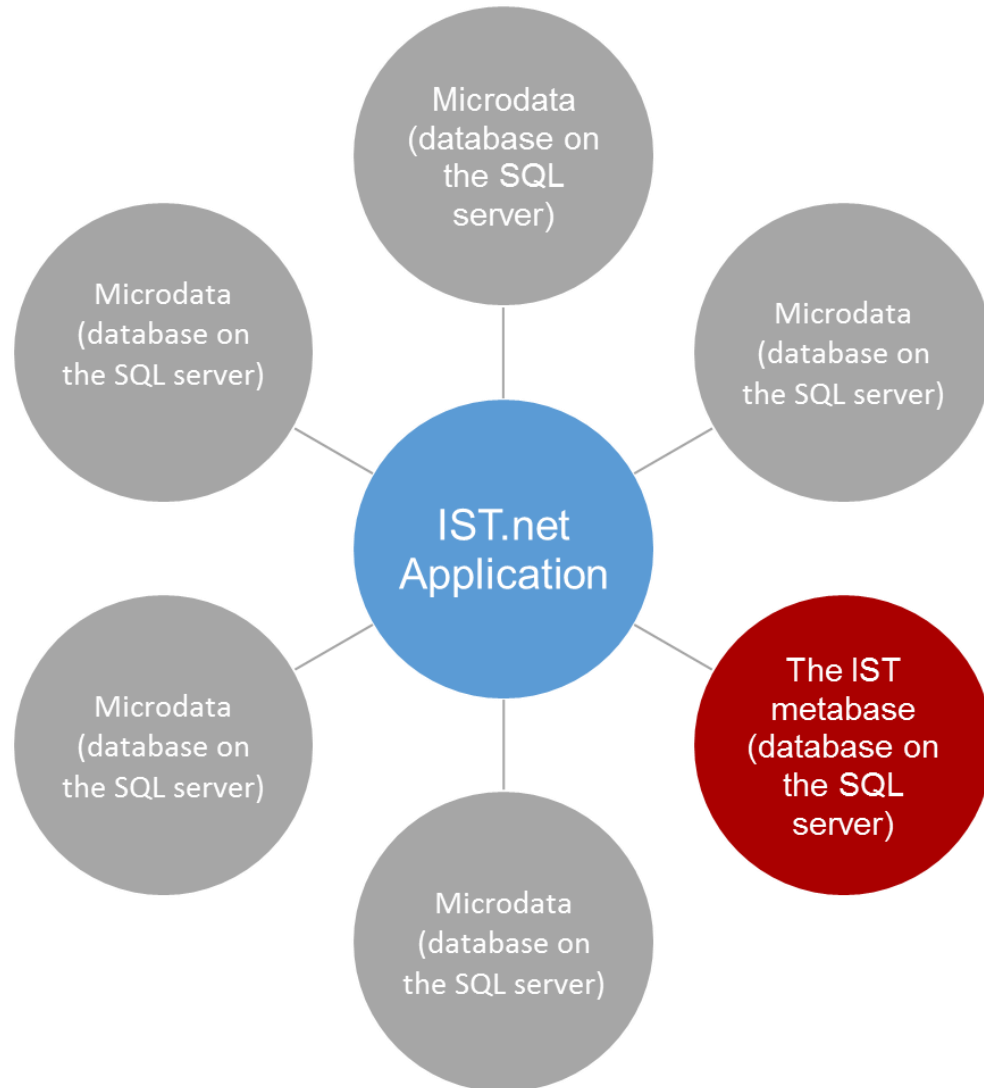
HOW ABOUT THAT...

... in addition to storing data in databases (files) to store application itself?

... to describe applications and store those descriptions some metadata database?

... to develop a single application that would interpret this knowledge base (database metadata) and in real-time generate (based on descriptions from that database) data entry, data checks, data edit, advanced search, data processing and reports?

DATA CHAOS DATA MANAGEMENT FRAMEWORK



INSTEAD OF...



ORACLE
DATABASE



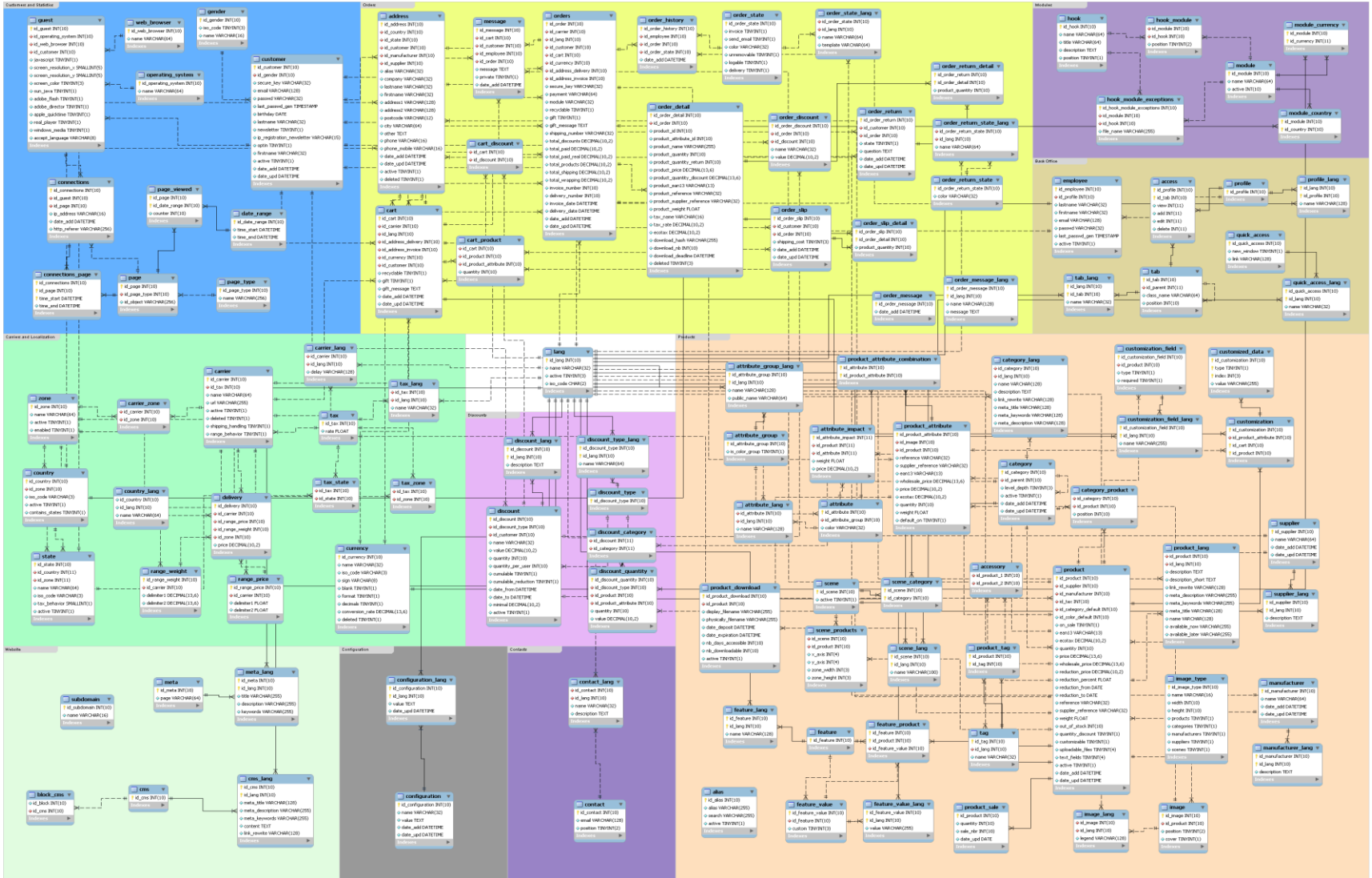
LOCAL DATABASES

...ONLY ONE DATABASE TYPE

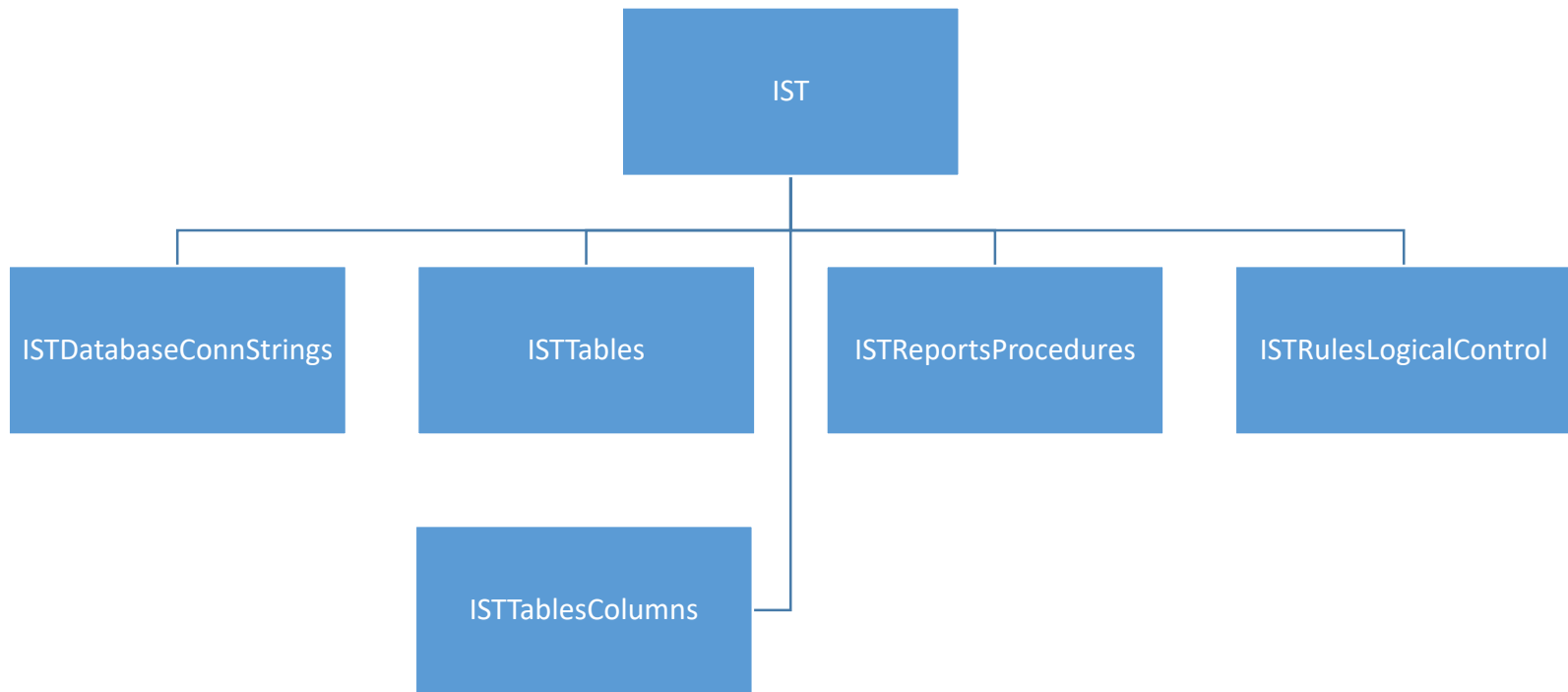


Microsoft®
SQL Server®

INSTEAD OF COMPLICATED METADATA MODEL



...ONLY SIX TABLES IN METADATA



REQUIRED KNOWLEDGE

For users:

- It takes only a basic knowledge of Windows operating system
- IST.net program is intuitive and user-friendly

For “developers”:

- Knowledge of MS SQL
- The quality of the individual applications (modules) within the IST used for data processing of statistical surveys depends on the quality of database design and how well queries and SQL procedures are written

IST: BENEFITS FOR STATISTICAL OFFICE

- Decreased cost, increased efficiency
- Standard technology for statistical production
- Faster development of IT solutions for a survey
- Better coordination among SORS statistical departments
- Independent to staff change (IT staff flexibility)
- One platform (Microsoft), one program, one metadata database
- End user: no need to read a manual to learn how to use the application
- IT people: they should only be a good database analyst
- Driving further organizational efficiency to realise business outcomes in reducing operational costs

IST: BENEFITS FOR GOVERNMENT

- Responsive national statistical service
- Decrease of cost and time and increase of quality of information
- In-sourcing is the way for drastically decreasing budget funds previously reserved for buying specialized software
- Tailor made IT solution for SORS that can be implemented in other government offices
- IST can be an answer for identifying and leveraging information technology services to drive business efficiencies in government offices
- Unified approach and uniformity of data processing can give better coordination among government offices
- Extensive use and possible adjusting to data processing requirements in different institutions

Where are we now?

- SURVEYS

About 98% of the statistical surveys in SORS are using IST

- REGISTERS

Statistical Business Register, Farm Register, Statistical Register of employees have already been integrated into the IST

- Censuses

Census of Agriculture (2012), Census of Economics (2012), Pilot Census of Population (April 2019)

- OTHER

META (statistical base metadata), financial statements, or other different one-time projects and applications that are not part of a statistical program (e.g., the IPA projects)

WITH HEADS IN CLOUDS (MS AZURE Cloud activities)

- The development of the IST is the first product of one Serbian public institution that has been transferred to this type of technology
- Data “on the ground”, development “on the cloud” (IST interpreter)
- All SORS software development will be moved to MS AZURE Cloud platform
- Thanks to cloud regional development expanded



IST.NET PROGRAM

ИСТ апликације : - ПОРЕСКА УПРАВА - РЕГИСТАР ПИБ и РЕГИСТАР ПДВ

Application Administration Guides Language Other

User: sinisa.cimbaljevic

Republic of Serbia
Statistical Office of Serbia

Republic of Srpska
Statistical Office of Srpska

IST

[Data entry](#)

[Batch logical control](#)

[Automatic correction](#)

[Data editing](#)

[Procedures and reports](#)

[Advanced search](#)

[CATI](#)

Code books

[Data entry](#)

[Data editing](#)

[IST site](#)

[www.stat.gov.rs](#)

[Intranet](#)

[IST info](#)

[IT materials](#)

[Phone book](#)

Application

ADM_PU

ПОРЕСКА УПРАВА - РЕГИСТАР ПИБ и РЕГИСТАР ПДВ

Time point

mm / yyyy:

10 / 2016

[Valid intervals](#)

[Record number](#)

[The last date of records](#)

[Number of inputations and edits above variables](#)

[Overview of batch logical control](#)



[Exit IST](#)



SR 07:26 15.11.2016

EXAMPLE: ONE IST APPLICATION

Data entry - Meta podaci : SURVEYS

YYYY MM Survey
2018 12 001010

Save Save and go to next record Error checking Back

SURVEY

validity start validity end
2. 1.1990 15.12.1999

Acronym IZB1
Producer
Legal background
Type Anketno
Eurostat survey name

Name

LanguageID
Survey name

Brief description

ćirlica
Локални избори за одборнике скупштина општина и градова, за председнике општина и градоначелнике

Save

surveyCode	languageID	name	description
001010	1	Локални избори за одборнике скупштина општина и градова, за председнике општина и градоначелнике	
001010	2	Lokalni izbori za odbornike skupština opština i gradova, za predsednike opština i gradonačelnike	
001010	3	Local elections for councilors of municipal assemblies and cities, the mayors and mayors	

Area Subarea
Избори

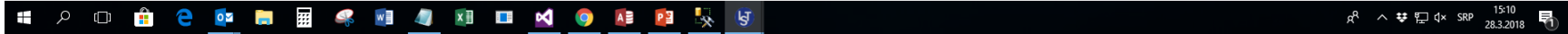
Department Division Group

Chief methodologist Bijana Ilić
Chief IT person Zorana Čosić
Scope

Reference date SDMX code for reference date

Territorial level of publication
Sampling periodicity
Data collection periodicity
Data publishing periodicity
Period of data collection (every 15th in month, every week...)
First results date

Remark



<http://www.istportal.net/>



Our story

IST basics

IST motivator

Census on IST

About us

IST guidelines

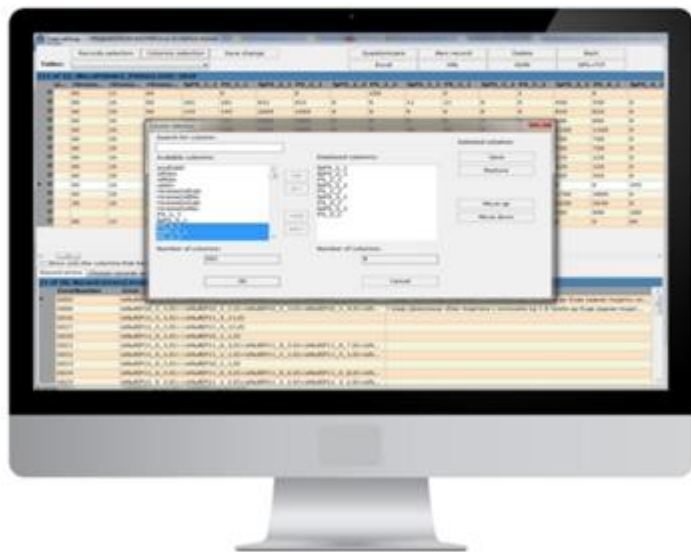
IST screenshots



Core of Our Business

what we are doing

We created solution for processing statistical data. It covers all the stages of statistical production.



What is IST actually

IST is platform, aimed for using by all the actors in statistical production.



Learn more about your data

IST is very convenient for data analysis.



Choose data collection tool

IST involves and provides various data collection modes, CATI, CAPI and CAWI.



Store everything

IST can replace separate data warehouse.



Impress everyone

IST has built modules for advanced data reporting.



Anything else?

IST has very important role in standardized use of statistical units.