

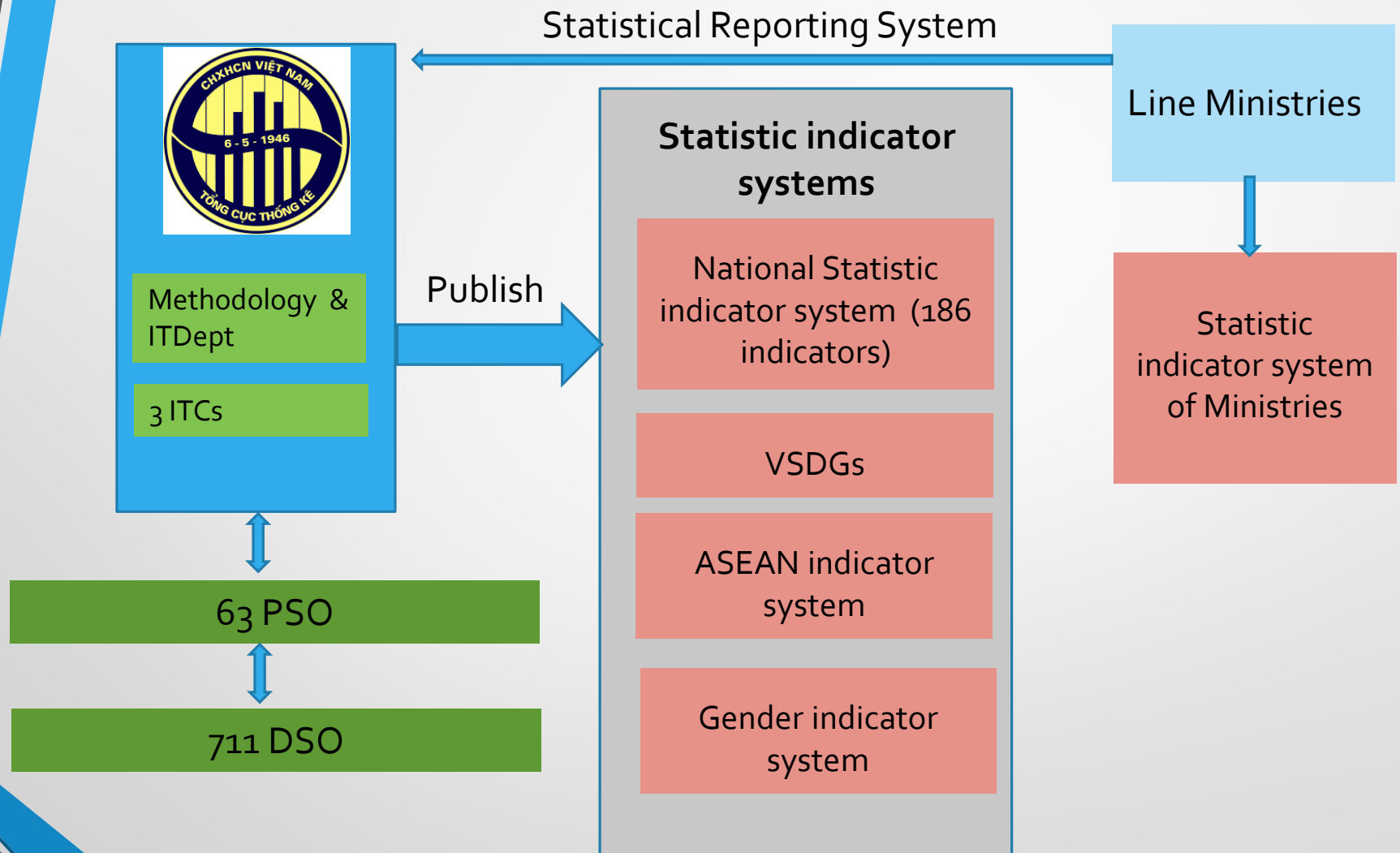


Utilization of ICT for Official Statistics

Case study of VietNam

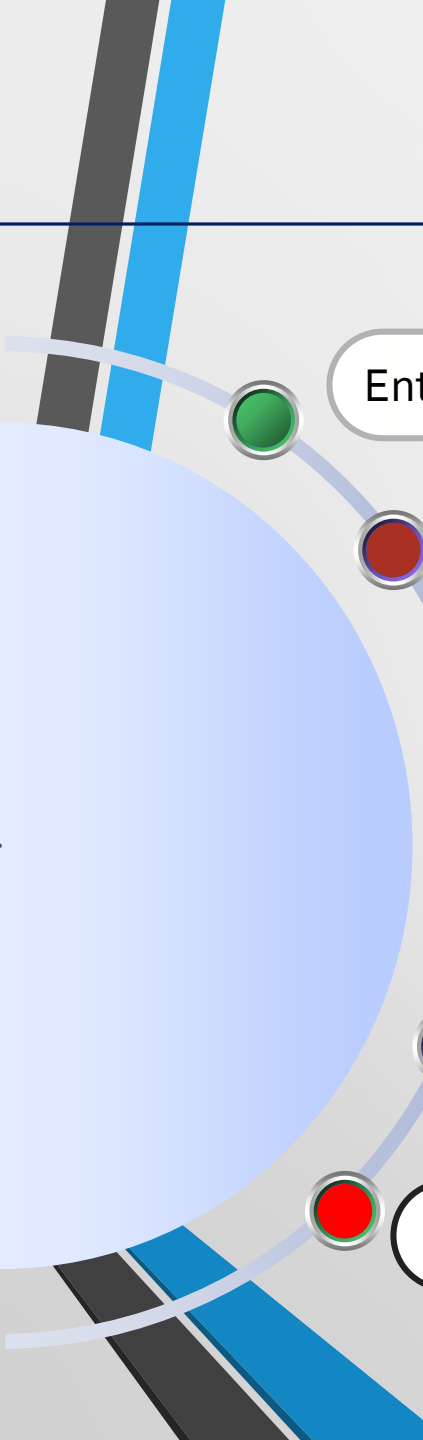
Mr. Do Ngoc Ha
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General Statistic Office (GSO)

Official statistic system



Major task in 2019:
- Population Census
- Revalue GDP

CONTENT



Enterprise architecture

ITC infrastructure

Platform

Database

Application

Limitation and planning

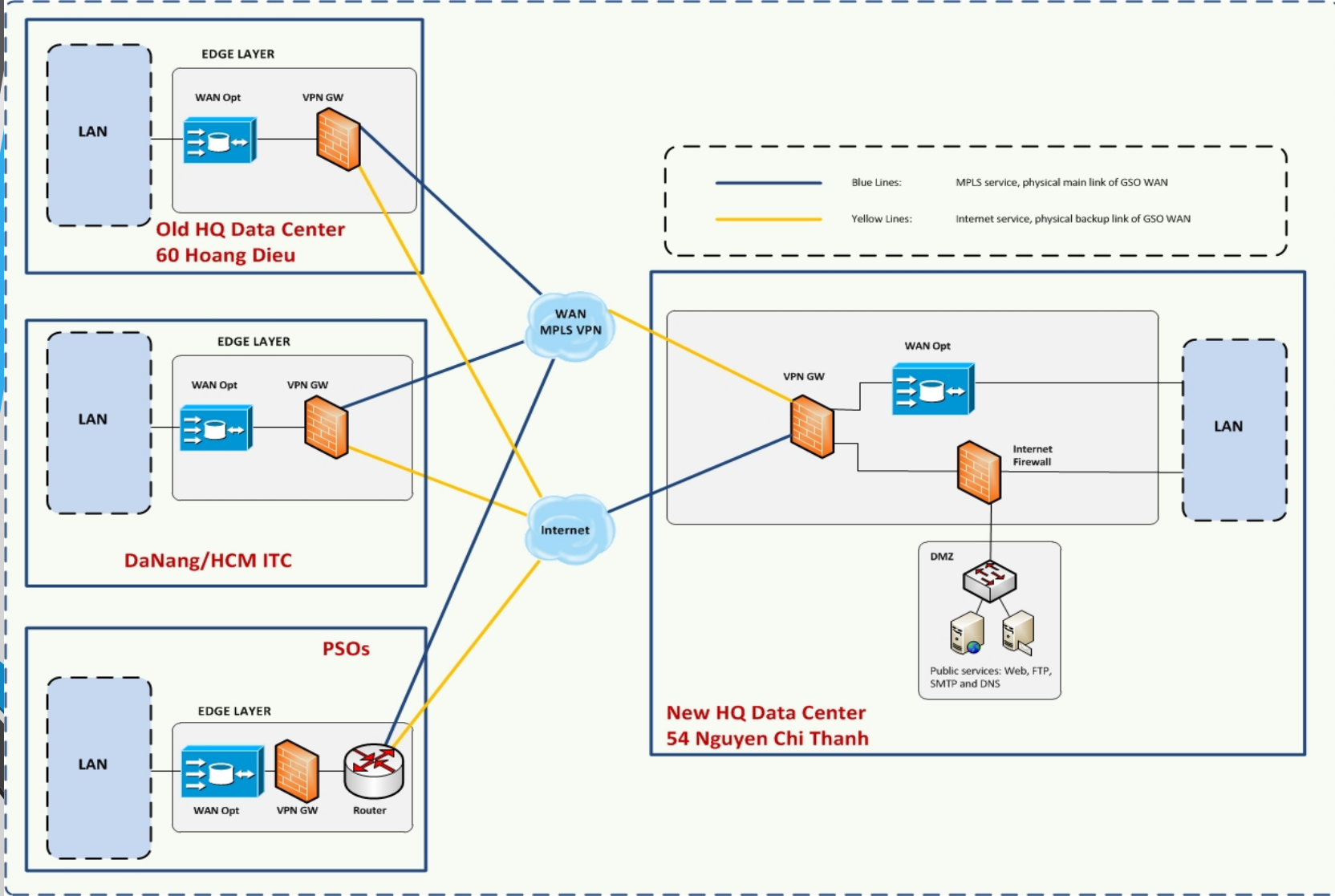
Enterprise architecture

- Enterprise architecture was applied from 2010 (OIO architecture), including 4 components:
 - Business Architecture: Applied GSBPM from 2012: including 7 steps at high level
 - Information Architecture: metadata driven
 - Application Architecture
 - Technology Architecture

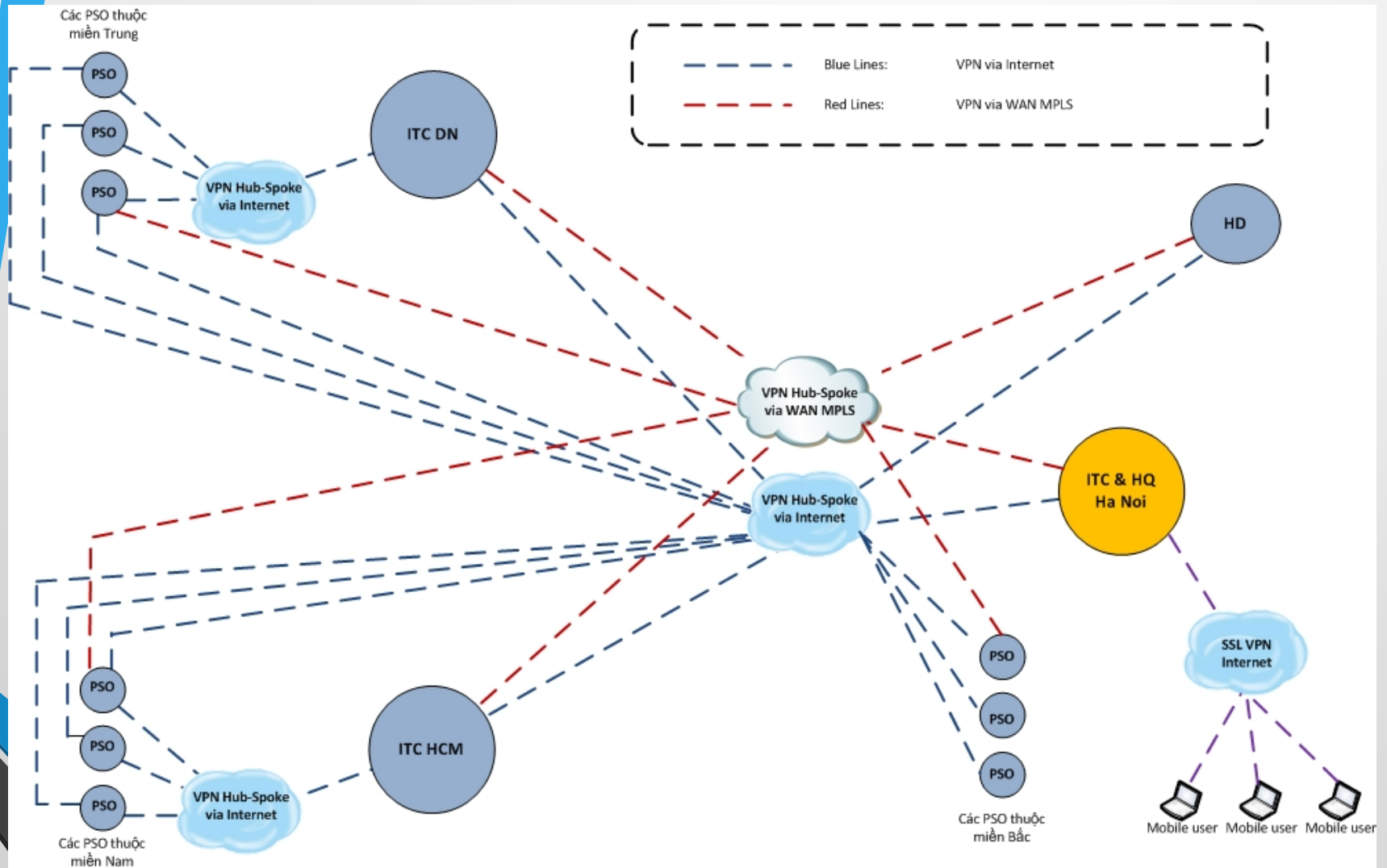
Follow e-government
platform

ITC infrastructure

Network topo



Network topo at province level



ITC infrastructure

VPN connections: using MPSL as:

- + 63 PSOs (4Mb/s)
- + 2 ITCs (50Mb/s)
- + HQ (ITC1) (100Mb/s)
- and internet lead line for backup:
- SSL VPN integrated with AD

Monitoring

- Solowin software;
- Palolama software

Platform

- OS
 - Windows Server 2012
 - Win XP, 7,8,10
- Email: MS Exchange 2013
- Anti Virus: Symantec Endpoint
- Backup: Symantec backup
- Software development: MS.Net, Fox, Access
- Statistical software: SPSS, Stata, CPro...

Platform

- Data collection
 - Key board: internal software
 - Scanning: scanner Kodak, ICR, TIS solution
 - Using for Census: Population Census 2009, Agriculture Census,
 - Implementation: 3 IT center
 - CAPI: using for Population Census 2019; Labor force survey; CPI survey (*e-Census experience sharing*)
 - Webform
 - Integrated platform: ESB (enterprise service bus) are using to collect administrative data

E-Population Census experience sharing

- Pop: 96,2 Million (1, April 2019)
- Enumerators: 120,000 peoples
- Supervisor: 15,000
- How you can investment large amount mobi-device for Census? Using personal mobile phone ->required to support android OS and iOS
- How can monitoring survey and control enumerator?:
Web
- Infrastructure: outsource

Result: reduce 6 months for data input and data cleaning

Database

- Database management:
 - MS SQL server 2012,
 - MS Access,
 - Fox,
 - SPSS, Stata...
- Central and distribution
- Meta data
 - Statistical classification: public on website
 - Structure
 - Definition and calculation method;
 - Main disaggregation;
 - Release period;
 - Data source;
 - Organization in charge of collecting and aggregating data

Dissemination

- Website :
 - Reporting: word, excel, pdf;
 - Statistical data: PC – AXIS (delay updated)
 - **Infographic** (next slide)
- Data warehouse
 - Some results of sample survey and Census: Labor force survey, VHLSS, Population Census 2009, Agriculture Census 2016...
- National Summary Data Page (NSDP)
 - Focus on economic statistic; Public 6 VSDG indicators
 - Updated in time on www.nsdg.gso.gov.vn
 - Information: metadata; data in excel, sdmx format
- **Visualization:** MS Power BI

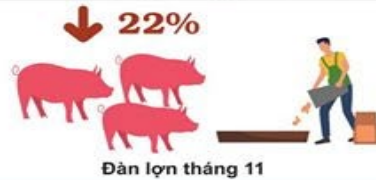


TÌNH HÌNH KINH TẾ - XÃ HỘI

THÁNG 11 VÀ 11 THÁNG NĂM 2019

SẢN XUẤT NÔNG, LÂM NGHIỆP VÀ THỦY SẢN

Dịch tả lợn châu Phi tại nhiều địa phương được kiểm soát, tổng đàn lợn giảm mạnh dẫn đến thiếu hụt nguồn cung gây nên tình trạng tăng giá. Sản xuất thủy sản tiếp tục giữ đà tăng trưởng.

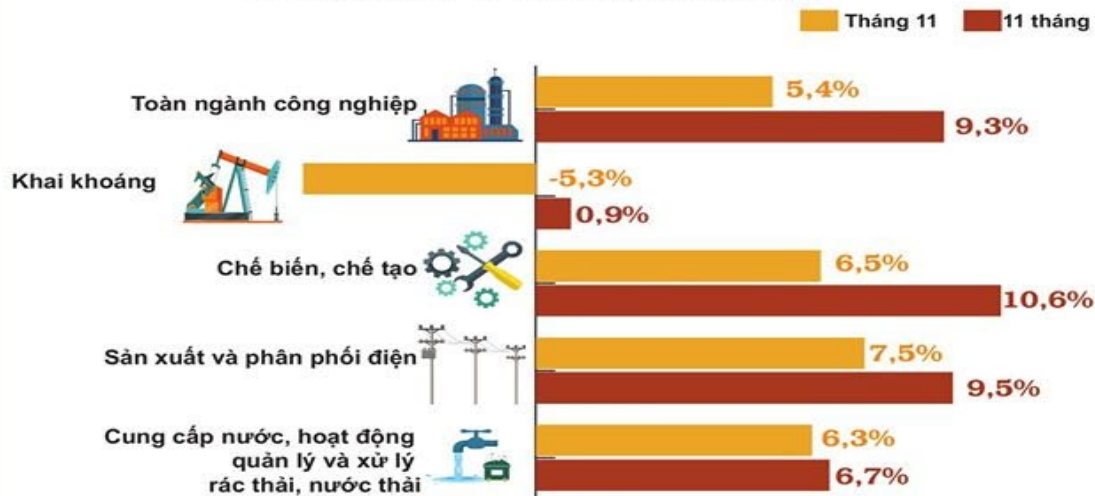


SẢN XUẤT CÔNG NGHIỆP



Sản xuất công nghiệp tháng 11 có dấu hiệu tăng chậm lại với mức tăng 5,4% so với cùng kỳ năm trước, thấp nhất kể từ đầu năm 2019 do sụt giảm của ngành khai khoáng và sự giảm tốc của ngành công nghiệp chế biến, chế tạo. Tuy nhiên tính chung 11 tháng, sản xuất công nghiệp vẫn đạt mức tăng khá 9,3%.

Tốc độ tăng IIP so với cùng kỳ năm trước

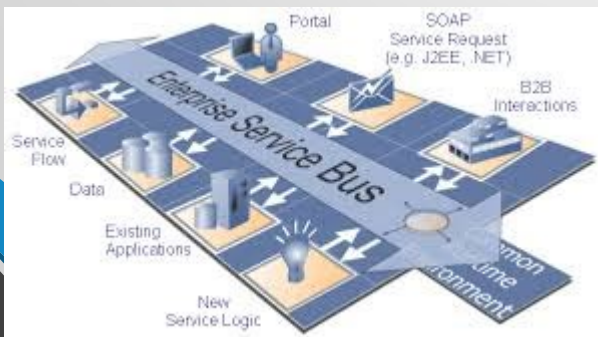


Application

- Software development tool:
 - MS. NET, Visual Basic,
 - MS Access,
 - Fox,
 - SPSS, Stata...
- Model
 - Win form: client; client-server
 - Web base: data collection and dissemination
 - CAPI for android
- Internal

Others

- Big data
 - Research for CPI
 - Using web crawler technology
- Using administrative data
 - Integrated platform: IBM Enterprise service bus (ESB)
 - Data sources: tax data (tax register, finance report...)



ESB is a pattern whereby a centralized software component performs integrations to backend systems (and translations of data models, deep connectivity, routing, and requests) and makes those integrations and translations available as service interfaces for reuse by new applications. The ESB pattern is typically implemented using a specially designed integration runtime and toolset that ensure the best possible productivity

Limitations

- **Infrastructure:**
 - VLAN connection HQ and PSO, do not cover DSO (at district level)
 - Security and monitoring is weak
 - Investment limitation -> low capacity
- **Applications:** develop in different platform
- IT skill of statistician is weak

Planning in period 2019-2025

- Upgrade infrastructure
 - Virtual system solution
 - Security Monitoring
- Build the data warehouse
- Using administrative data: tax data, import-export, health, education data...
- Research Big data: CPI, mobile data, price of land...
- VSDGs monitoring
- Publish data with visualization
- Develop the e – statistic production system (*metadata driven; full data cycle life management*)

(see next diagram)

e – statistic production system


Statistics
Users

e-Stat




 Statistical Table
Management System

 Statistical Information
Database


Metadata management


Managers
(Government)


Survey
targets

 Online survey system


Statistics
Users

 Statistical Geographic Information
System



THANK YOU!