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# TRANSVERSE GIS FOR TOTAL E&P NIGERIA - GEOPS

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TEPNG/TS/ECP/Survey & Geomatics

We are better together!

Data integration and information sharing thru a Web-GIS application!!

Access to the right information with a precise location in due time!!!

Transverse GIS / GEOPS ... in Nigeria

# AGENDA

- Introduction
- Total Upstream Companies in Nigeria (TUCN)
- TUCN- District Activities
- Data Sources
- Challenges
- GIS Architecture
- Transverse GIS Architecture
- Distributed Geodatabases
- Business Continuity Plan & Disaster Recovery Plan
- GEOPS – Web Publication
- GEOPS – Functionalities
- Future Projects
- Conclusions

# ADMINISTRATIVE MAP OF NIGERIA

NIGER

CHAD

Lagos – Eko Tower



YOBE

BORNO

GOMBE

ADAMAWA

Port-Harcourt Office



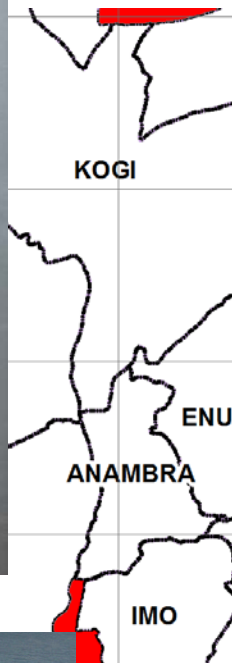
FEDERAL MINISTRY OF LANDS & SURVEY

ECP-SURVEY & GEOMATICS

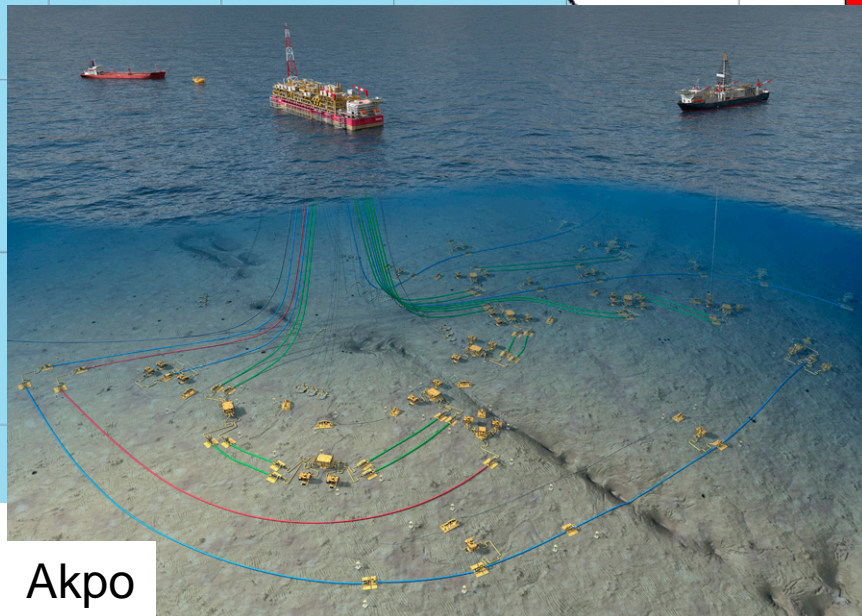
# OFFSHORE ACTIVITIES



Amenam



Ofon

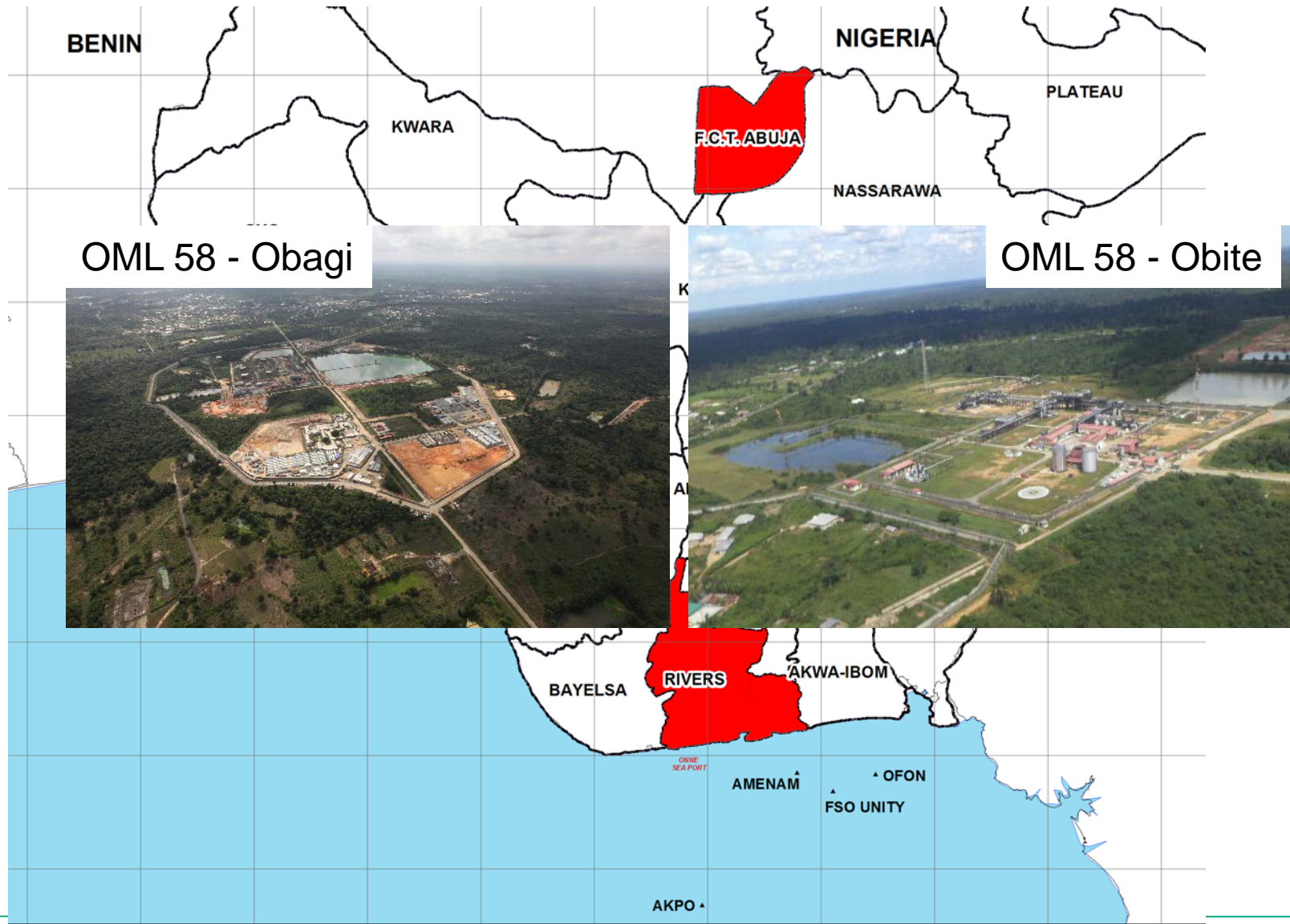


Akpo



FSO Unity

# ONSHORE ACTIVITIES



BENIN

NIGERIA

## Other TUCN Data Sources (EDMS)

Prodom, UNISUP-SAP, SIGEO, eSearch,

The challenges of sharing geo-information across the two districts, standardization of datasets, IT(broadband internet) facilities, ... etc

## DWD Data Sources

GSR, HSE, D&C, DEV/OPS, Projects, Engineering, Constructions

## PHC-D Data Sources

GSR, HSE, D&C, DEV/OPS, Projects, Engineering, Constructions

Data Store



ngepphc-apora07  
(Oracle Database & ArcSDE)

Data Store



ngepphc-apora07  
(Oracle Database & ArcSDE)

## Other TUCN Data Sources (EDMS)

Prodom, UNISUP-SAP, SIGEO, eSearch,

In Oct.2012,our main onshore site with oil and gas production facilities was taken over by flood. The first experience in 50yrs.

In Feb.2014, the organized Labor union switched off power supply to Phc-D. the IT savers, company clinic and remote sites went down. The back up powers went off after 8hours.

## DWD Data Sources

GSR, HSE, D&C, DEV/OPS, Projects, Engineering, Constructions



## PHC-D Data Sources

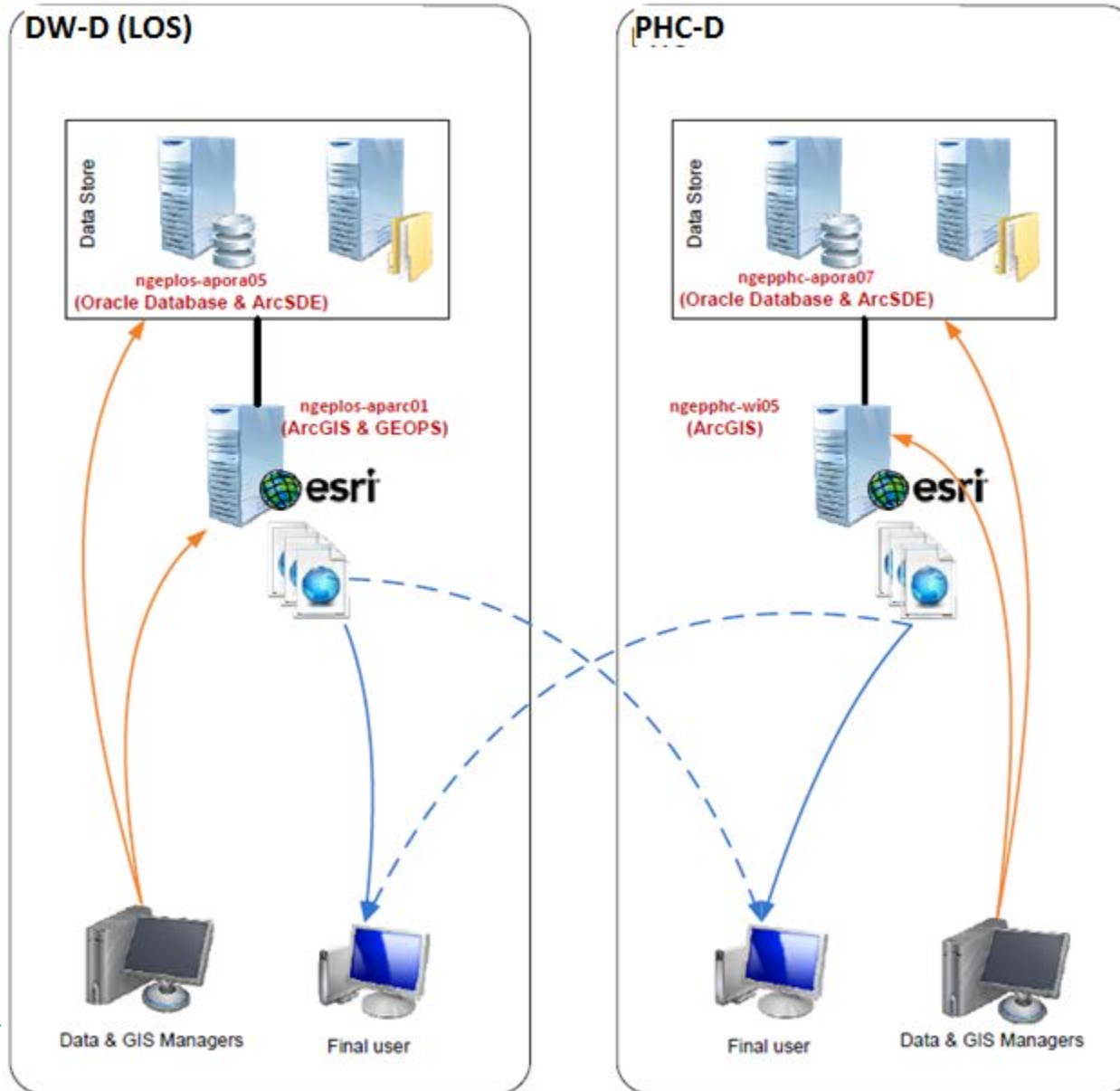
GSR, HSE, D&C, DEV/OPS, Projects, Engineering, Constructions

The challenge was how do we return to business within the shortest possible time (**BCP**)? How do we initiate recovery after the disaster (**DRP**)? How do we compute our impact level and plan evacuations and repairs...

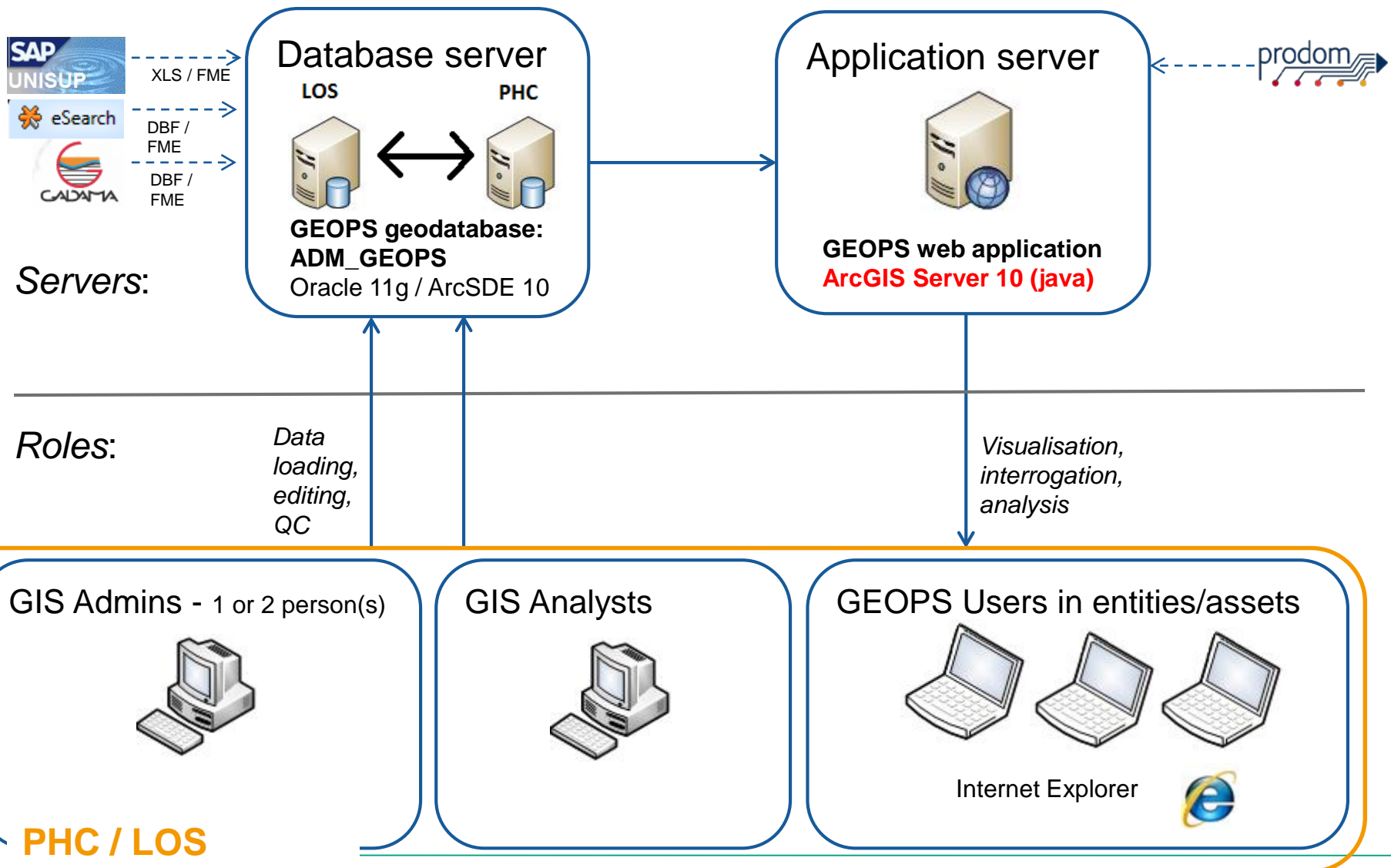


# GIS ARCHITECTURE

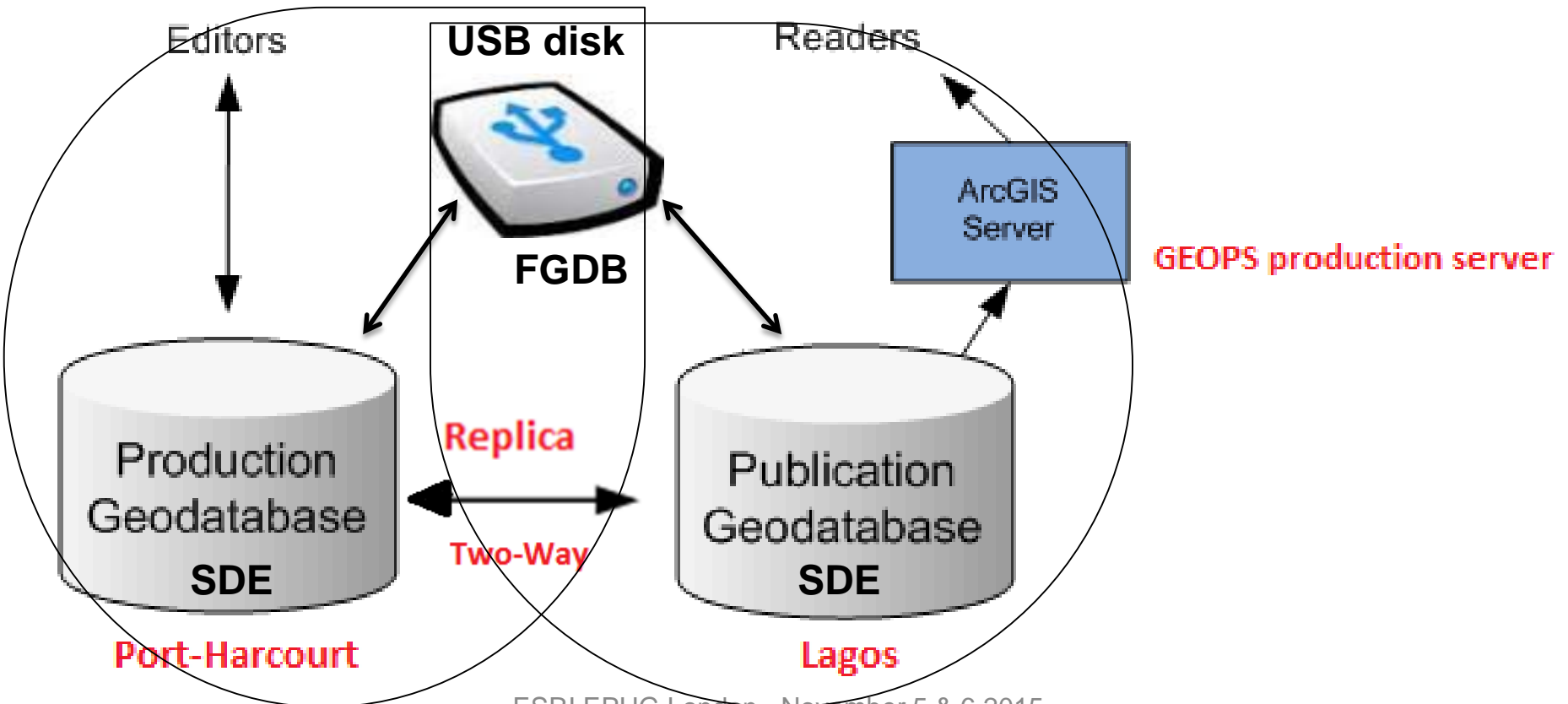
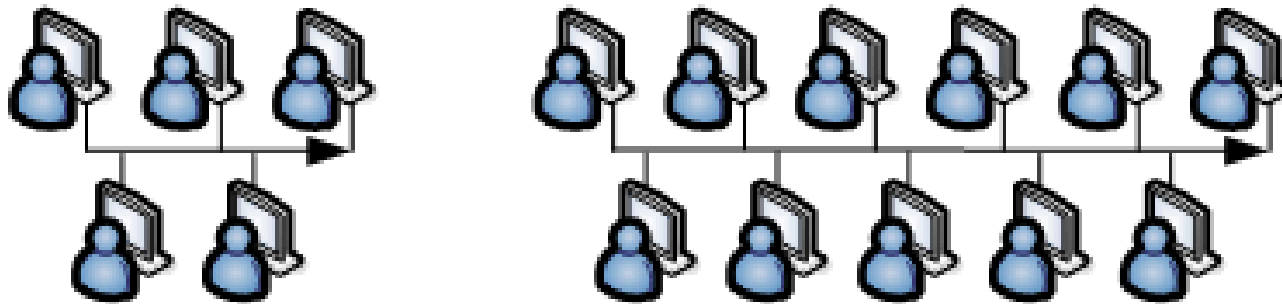
## Production Environment



# TRANSVERSE GIS ARCHITECTURE

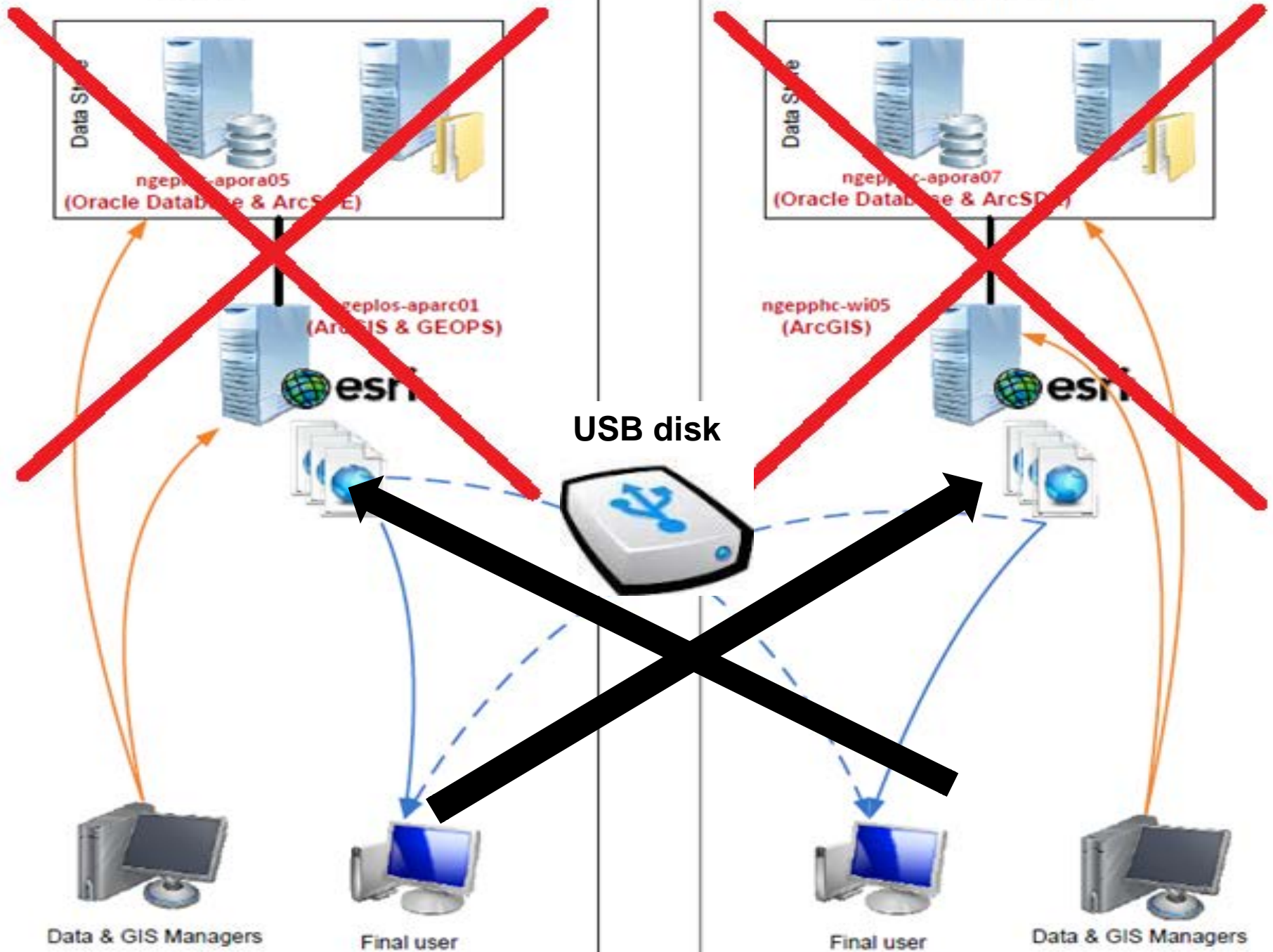


# DISTRIBUTED GEODATABASES



## LAGOS

## PORT-HARCOURT



# GEOPS – WEB PUBLICATION

GEOPS Home

English July 06 2015 Jean-Michel AMOUREUX

**GEOPS**  
GIS FOR DOMAIN OPERATIONS AND PROJECTS

Select a subsidiary/project  
Select a subsidiary/project

News

Nigeria subsidiary, 16/04/2015  
The access to reports per Lease stored in ESEARCH is now operational.

Nigeria subsidiary, 08/12/2014  
GEOPS has now been migrated to its production environment. As of 08 December 2014 the pre-production pages should not be used anymore! The access to GEOPS must be done via this url:  
<http://geops-ng.ng.ep.corp.local/geops-flex/>

Nigeria subsidiary, 12/11/2014

Documents  
TUCN intranet

Caption  
Active basemaps

**GEOPS**  
GEOPS - A CARTOGRAPHIC APPLICATION OF THE TOTAL GROUP

**Total E&P Nigeria**  
ABUJA

LAGOS

Onshore

PORT HARCOURT

Offshore

**Onshore: MINNA OML 58**  
**Offshore: WGS 84**

**The TUCN datasets were published via the WEB GIS Portal code named GEOPS**

**TOTAL**

# GEOPS – FUNCTIONALITIES

- Main functionalities
  - Mapping, positionning, query (attributes and spatial analysis), print, etc.
  - Security by individual access and roles
  - Real-time vessel and vehicle tracking system (AVTS)
- Connections to data sources
  - Interface with SAP: pipeline descriptions are inherited from Unisup into the geodatabase,
  - Interface with EDMS : documents in eSearch and Prodom are directly opened from GEOPS via a web link,
  - Hyperlink from a feature to any type of document : pdf, pictures, videos, etc.
- ArcGIS is a standard technology, well known in TOTAL
  - FGDB or SDE GDB can store data from multiple entities and sources
  - The GDBs are maintained and updated by the GIS engineers of the affiliate with ArcGIS Desktop
- Web application
  - Easy to use, no software to install on users desktops
  - Accessible from anywhere : only the connection to TOTAL network is required

# FUTURE PROJECTS

- To consolidate on the gains made so far we look into
  - Mobile GIS approach
  - AVTS for all our mobile and fixed assets
  - Increase awareness of GEOPS and its functionalities across the affiliate

# CONCLUSIONS

- The publication of validated spatial data, and their daily update, via a web site, with active links to their associated documents, is a technical step-ahead which greatly facilitate the access to transverse information, including the most remote locations such as the platforms offshore.
- The successful implementation of the Distributed Geodatabases between the two districts of the affiliate is opening new horizons of application within Total E&P Group, notably in view of a more decentralized organization with regional 'hubs' for the Exploration and Production activities.

# QUESTIONS & ANSWERS