An aerial photograph of a town, likely in the Alps, is shown from a high angle. The town is nestled in a valley, with buildings and green spaces visible. The image is overlaid with a semi-transparent weather map showing isobars (lines of equal pressure) and wind vectors. The isobars are labeled with values such as 1010, 1015, 1020, 1025, 1030, 1035, and 1040. Wind vectors are represented by arrows of varying lengths and directions, indicating wind speed and direction. The background of the slide is a dark blue gradient with a stylized sun and cloud graphic in the top left corner.

# The WMO Information System Status and future direction

Copernicus Climate Data Store Workshop,  
ECMWF, 3 March 2015

Matteo dell'Acqua  
Chair WMO OPAG ISS



**METEO FRANCE**  
Toujours un temps d'avance

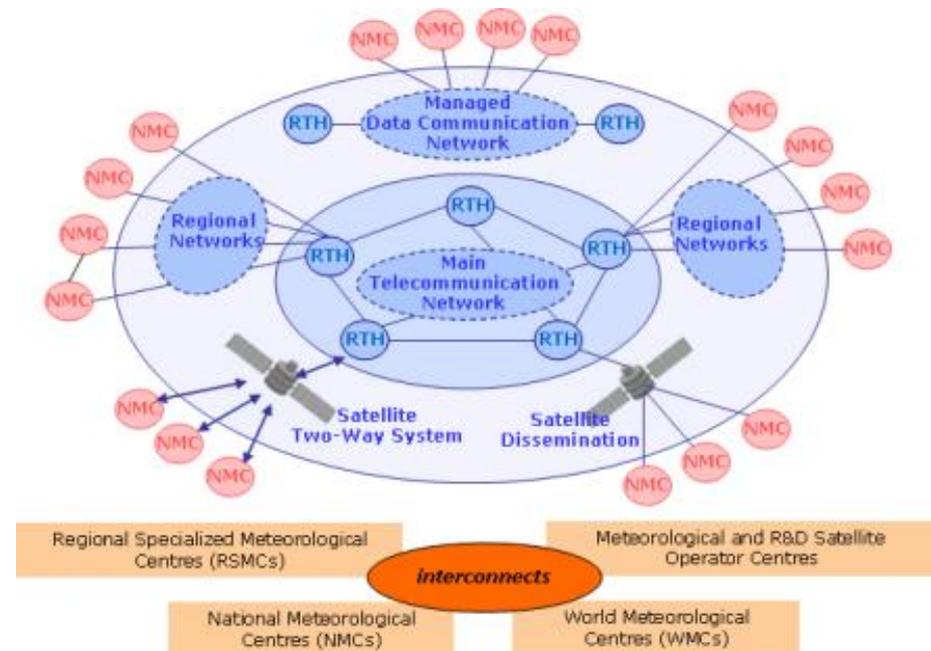
# Agenda

- Introduction to WIS
- Status of WIS
- Future directions



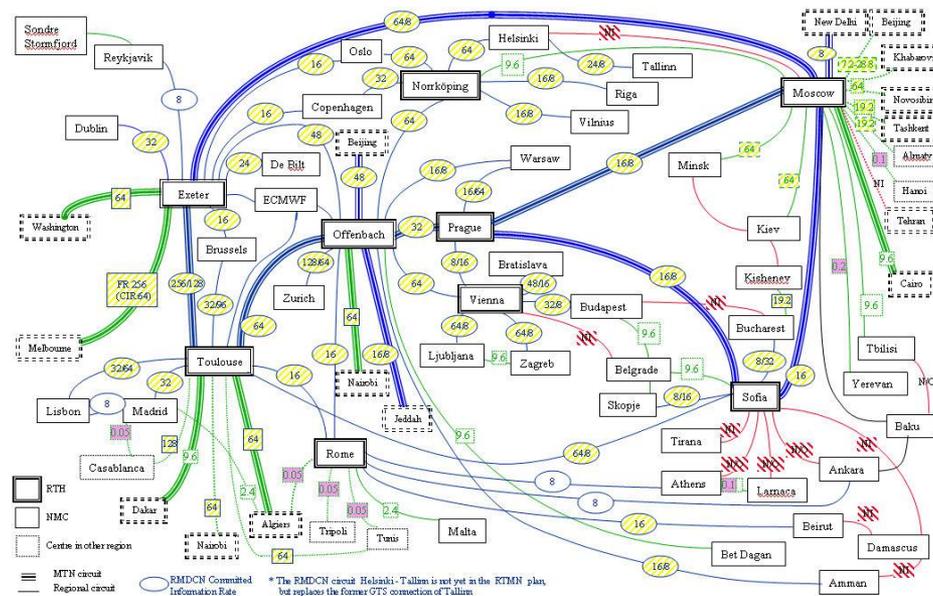
# World Weather Watch

- Launched in 1963, to support global collaboration in operational weather forecasting and weather research
- Three core components: GOS, GTS, GDPFS
- GTS - the Global Telecommunication System
  - collects, exchanges, and distributes observational data and forecasting products



# Limitations of GTS

- GTS is Reliable But...
  - Difficult to know what is there
  - Need special connections
  - Hard to set up routine delivery
  - “WWW club”



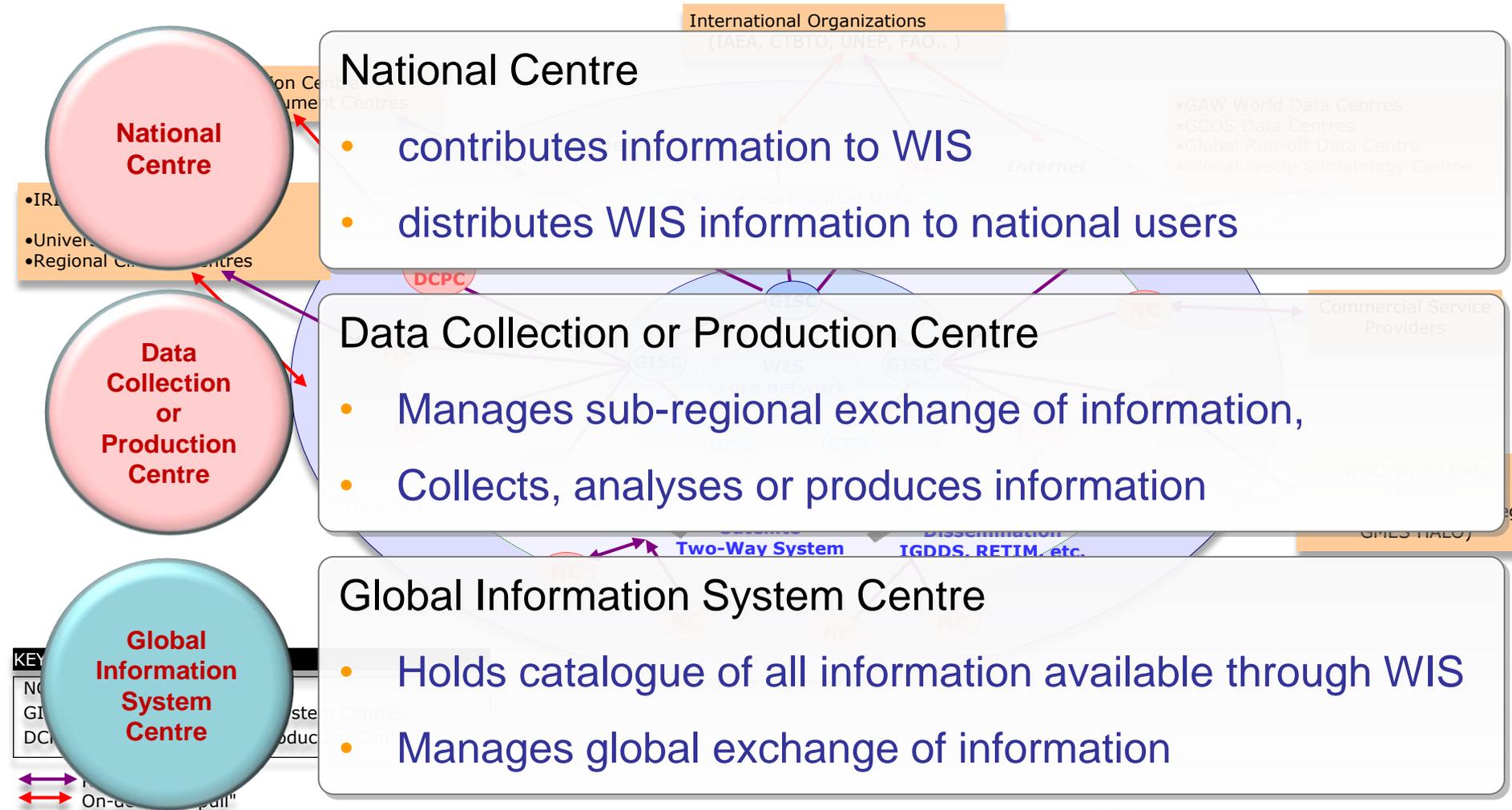
Regional Meteorological Telecommunication Network for Region VI (Europe)  
 Figure 1 - point-to-point circuits implementation (transmission speed in kilobits/s)

XII.2004

# WMO Information System

- A global operational infrastructure operated by WMO Members which aims to increase data visibility and simplify data exchange and access
- Add to GTS
- Make it easier to
  - find data
  - fetch data
  - publish data
- Serve whole WMO community
- Allow migration to new technologies

# WIS structure



# Discovery, Access, Retrieval

## GISC



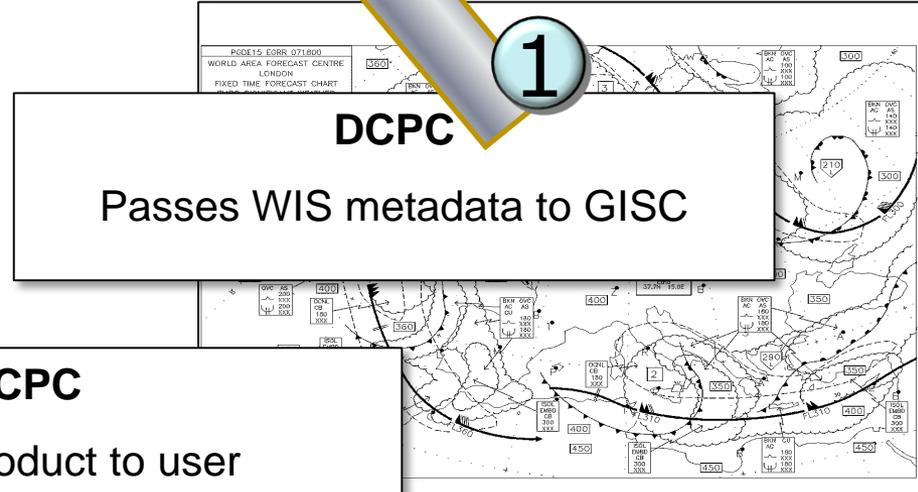
### User

- Searches catalogue at GISC
- Asks GISC/DCPC for product



2

## DCPC



Passes WIS metadata to GISC

3

### DCPC

Passes product to user

# WIS implementation

- WIS became operational in January 2012
- There are now
  - 15 GISCs
  - 136 DCPCs
  - 223 NCs
  - More than 180,000 metadata records in the global catalog
- Some well known DCPCs
  - ECMWF
  - EUMETSAT
  - NCAR
  - NESDIS-NCDC/NODC/NGDC
  - ...

# Status of GISCs



# Copernicus : a WIS DCPC !

- Existing centres within WMO Member States may apply for designation as one of the functional centres forming the core infrastructure of WIS:
  - Global Information System Centres (GISCs)
  - Data Collection or Production Centres (DCPCs)
  - National Centres (NCs)
- Designation requires a statement of compliance with WIS requirements

# WMO Priority Areas

- **WIS is critical to the following priority initiatives of WMO**
  - **WIGOS Framework**
    - WMO Integrated Global Observing System
    - WIS provides the interoperability layer as well as providing WIS data exchange and discovery
  - **GFCS**
    - Global Framework for Climate Services
    - WIS supports the Climate Services Information System
  - **Services and Disaster Risk Reduction**
    - WIS enables Members and decision makers access to authoritative, high quality weather, climate and water information

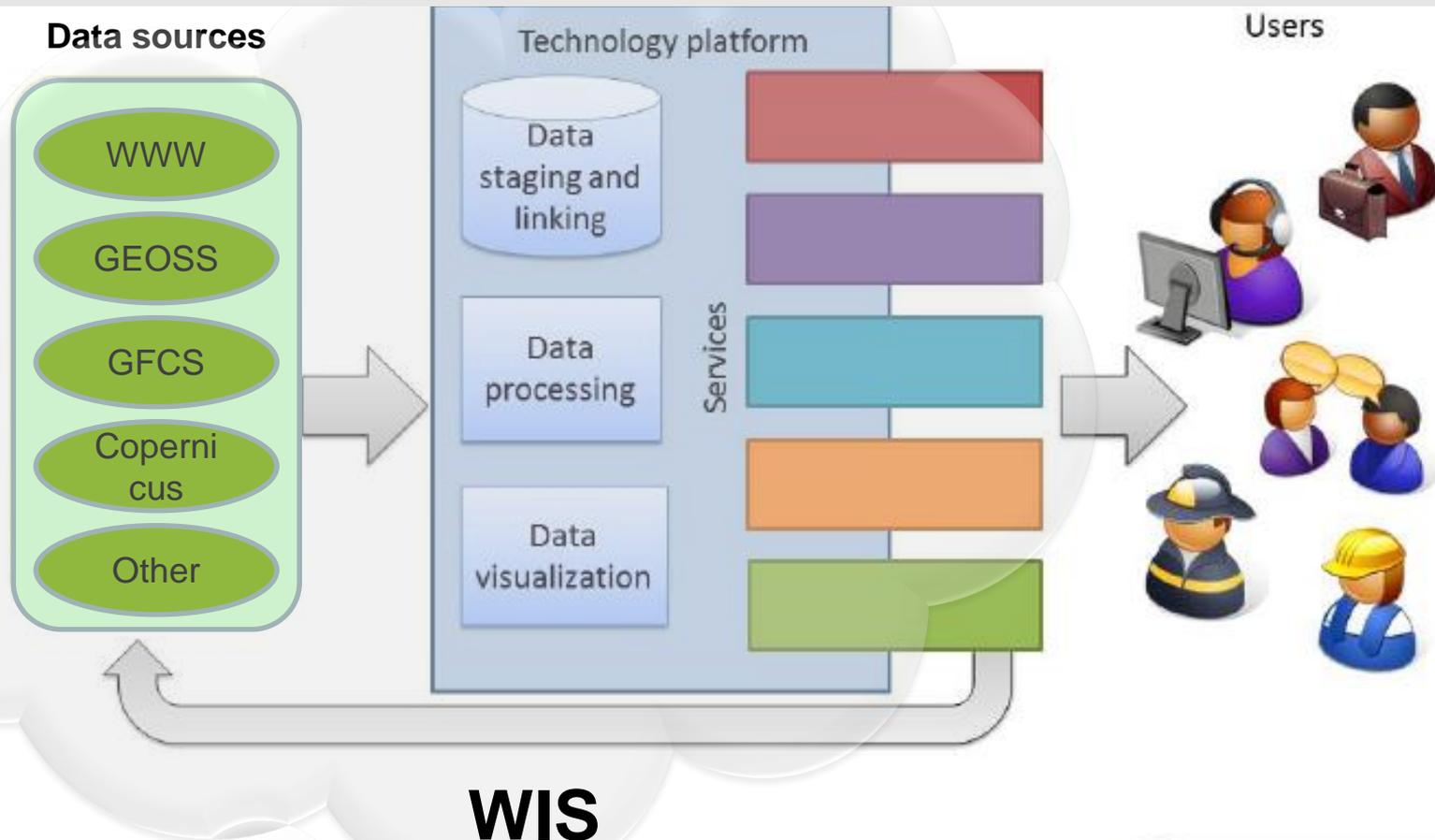
# Future direction of WIS : Some facts

- Current and future project continuously increase the amount of data available
  - Petabytes of earth observation
- Constant increase in the flow of data to exchange and information to be disseminated to various users
  - The dissemination solutions will have to scale up to accommodate the data volume and to meet the demand
- What are the most effective dissemination infrastructures when data and information are big and will keep on increasing?
- How will these data and information be exchanged, processed, disseminated and archived ?

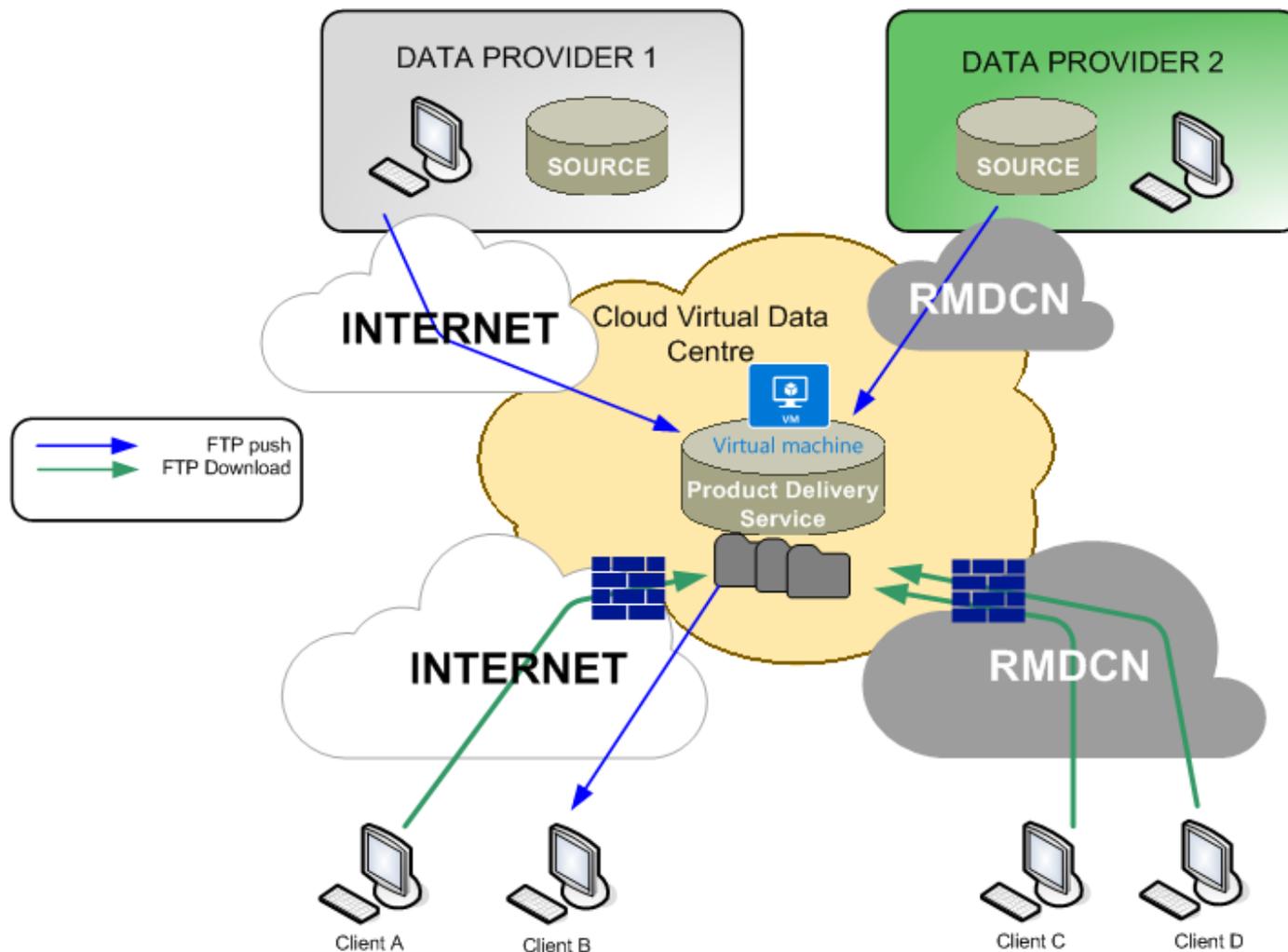
# Toward web services

High level interoperable services on data

Web services for data access and manipulation



# Towards cloud services



# Toward Data Lifecycle Management



**Thank you for your attention !**



**METEO FRANCE**  
Toujours un temps d'avance