



## Weather Data Exchange

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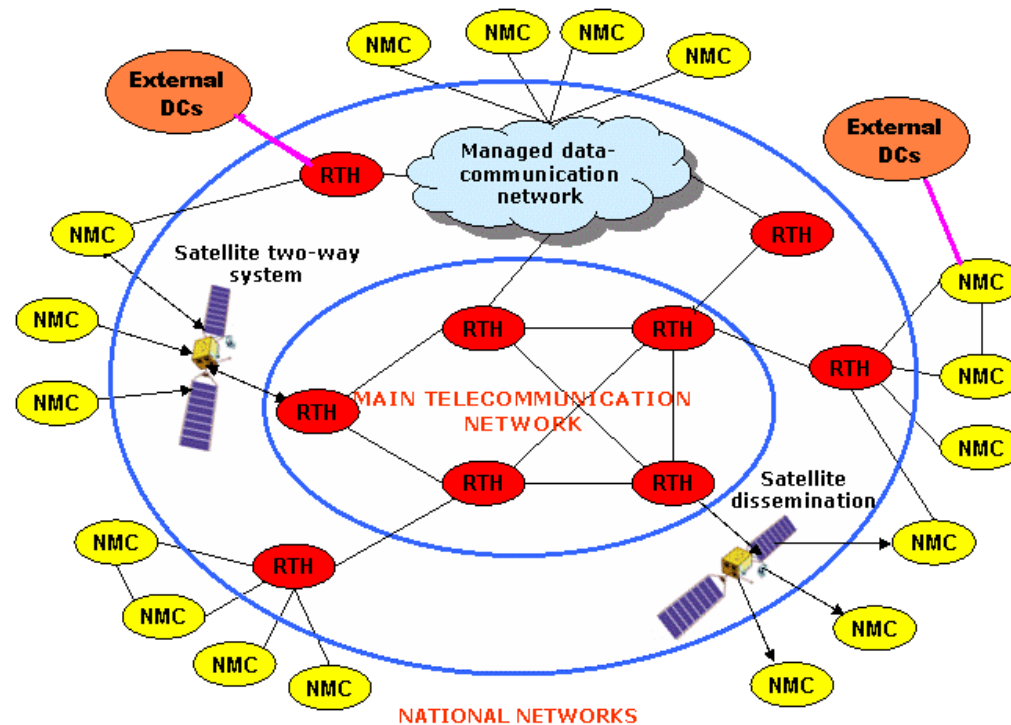


## World Weather Watch

To predict the weather, modern meteorology depends upon near instantaneous exchange of weather information across the entire globe. Established in 1963, the World Weather Watch of the World Meteorological Organisation (WMO) combines observing systems, telecommunication facilities, and data-processing and forecasting centres - operated by Members - to make available meteorological and related environmental information needed to provide efficient services in all countries. The telecommunication requirements are met today by the Global Telecommunication System (GTS) based on store-and-forward technology.



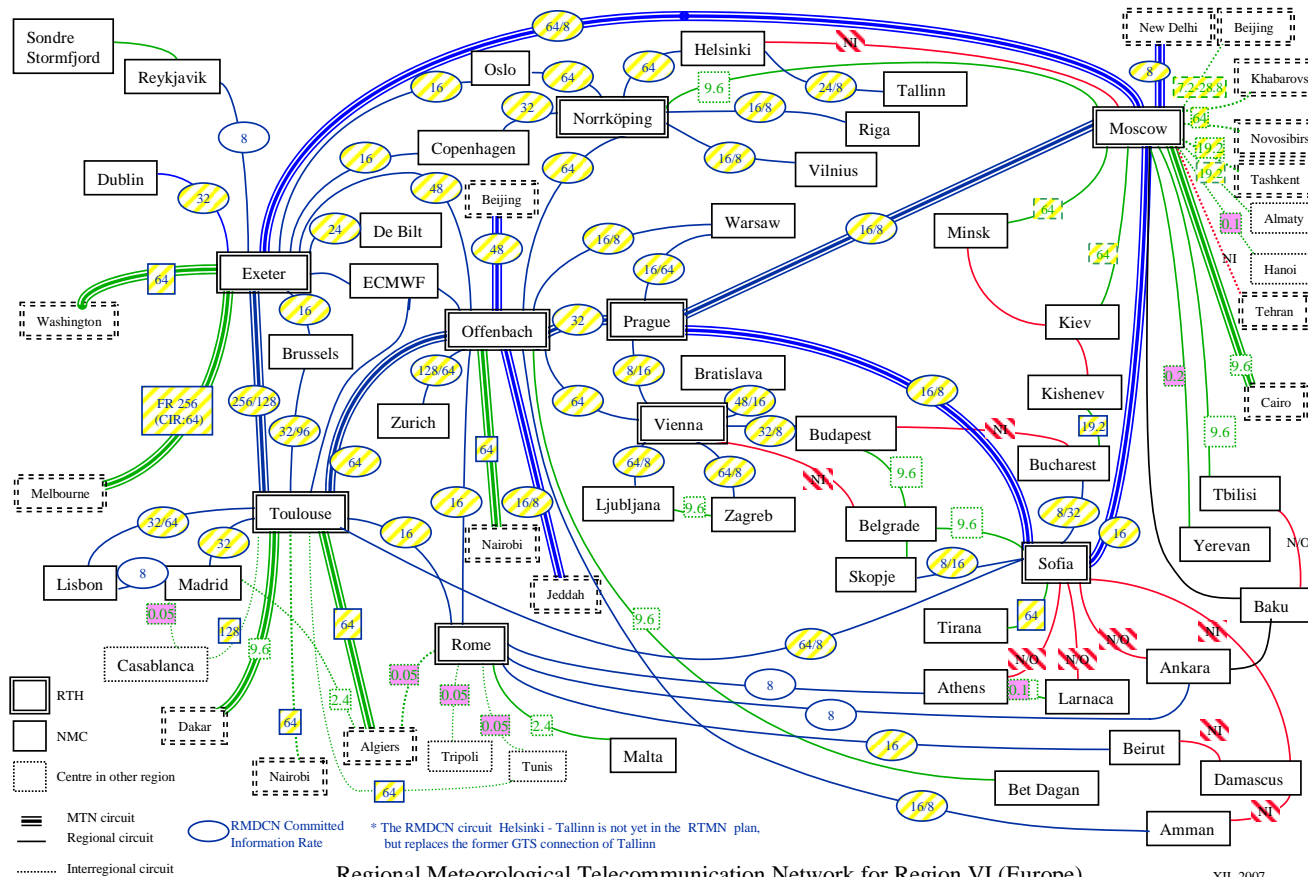
## WMO Global Telecommunication System (GTS)



RTH – Regional Telecommunication Hub    NMC – National Meteorological Centre    DCs – Data Collectors/ Custodians



## GTS in Europe



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

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## WMO Information System (WIS)

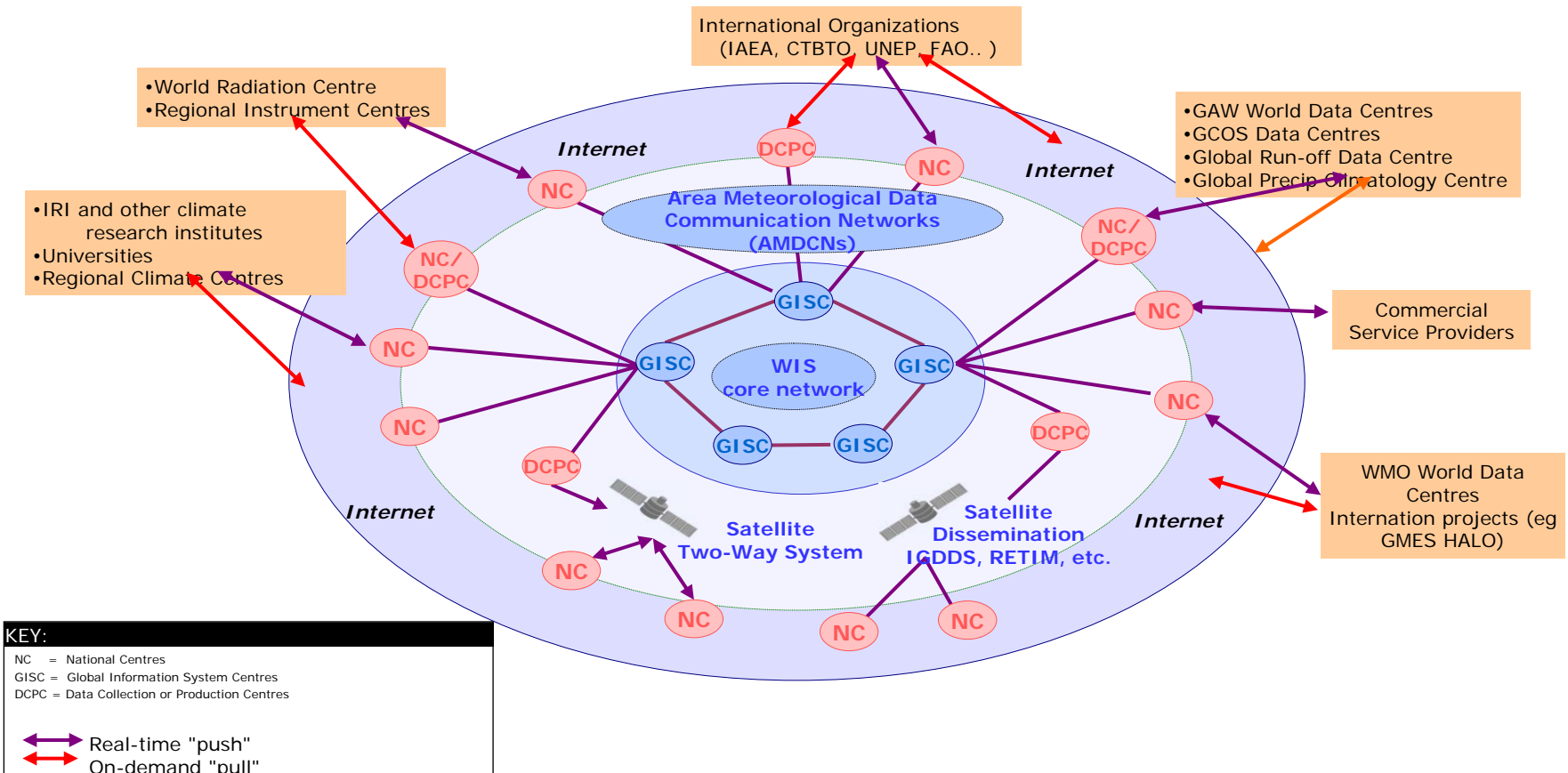
*In 2003, the World Meteorological Congress stated that an overarching approach for solving the data management problems for all WMO and related international programmes was required:*

**a single coordinated global infrastructure, the WMO Information System (WIS).**

- WIS would be used for the collection and sharing of information for all WMO and related international programmes.
- WIS would provide a flexible and extensible structure that would allow the participating centres to enhance their capabilities as their national and international responsibilities grow.
- Implementation of WIS should build upon the most successful components of existing WMO information systems in an evolutionary process.
- WIS development should pay special attention to a smooth and coordinated transition.
- The basis for the core communication network should be the communication links used within the World Weather Watch (WWW) for the high priority real-time data.
- WIS should utilise international industry standards for protocols, hardware and software.



## WIS concept





## Importance of Géant for WIS

The **WIS core network** could be established by using the existing research networks, because

- They are technically advanced enough to provide the necessary bandwidth of 1 Gb/s worldwide (South Africa, China, Japan, South Korea, India, Brazil, USA, Australia, France, Germany, Russia, UK)
- The experience of using one of the networks (DFN) for meteorological data has been very positive
- The information transmitted is of vital importance to society in general (e.g. warnings) and to a large extent freely accessible for research purposes