

EUCOS Meeting

WIS & VGISC

Status and Outlook

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VGISC, Technical Aspects: The Architecture of VGISC

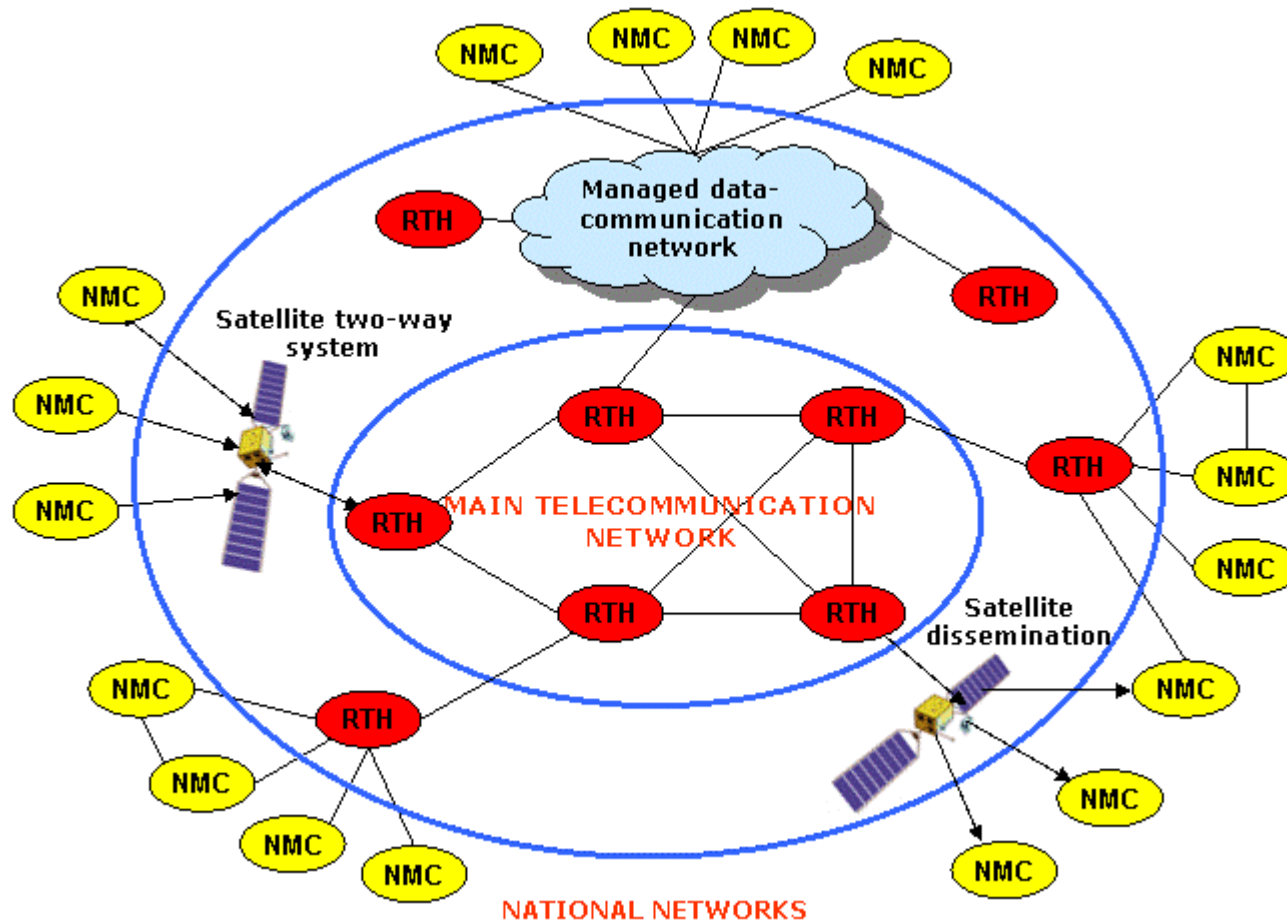
SIMDAT Project, Meteorology Activity

ITT for VGISC Software

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Starting Point: The Current GTS



Starting Point: The Current GTS

Communication Backbone of WMO: **Global Telecommunication System**

Hierarchical Telecommunication Chain

- Main Telecommunication Network (MTN, WMC, RTH)

- Regional Meteorological Telecommunication Networks (RMTN)

- National Meteorological Telecommunication Networks (NMTN)

Store & Forward Principle

- fixed Data Sets

- Fixed Partners

Decentralized Operation and Responsibilities

Room for Improvements

- Flexibility, especially with Respect of the Exchanged Data

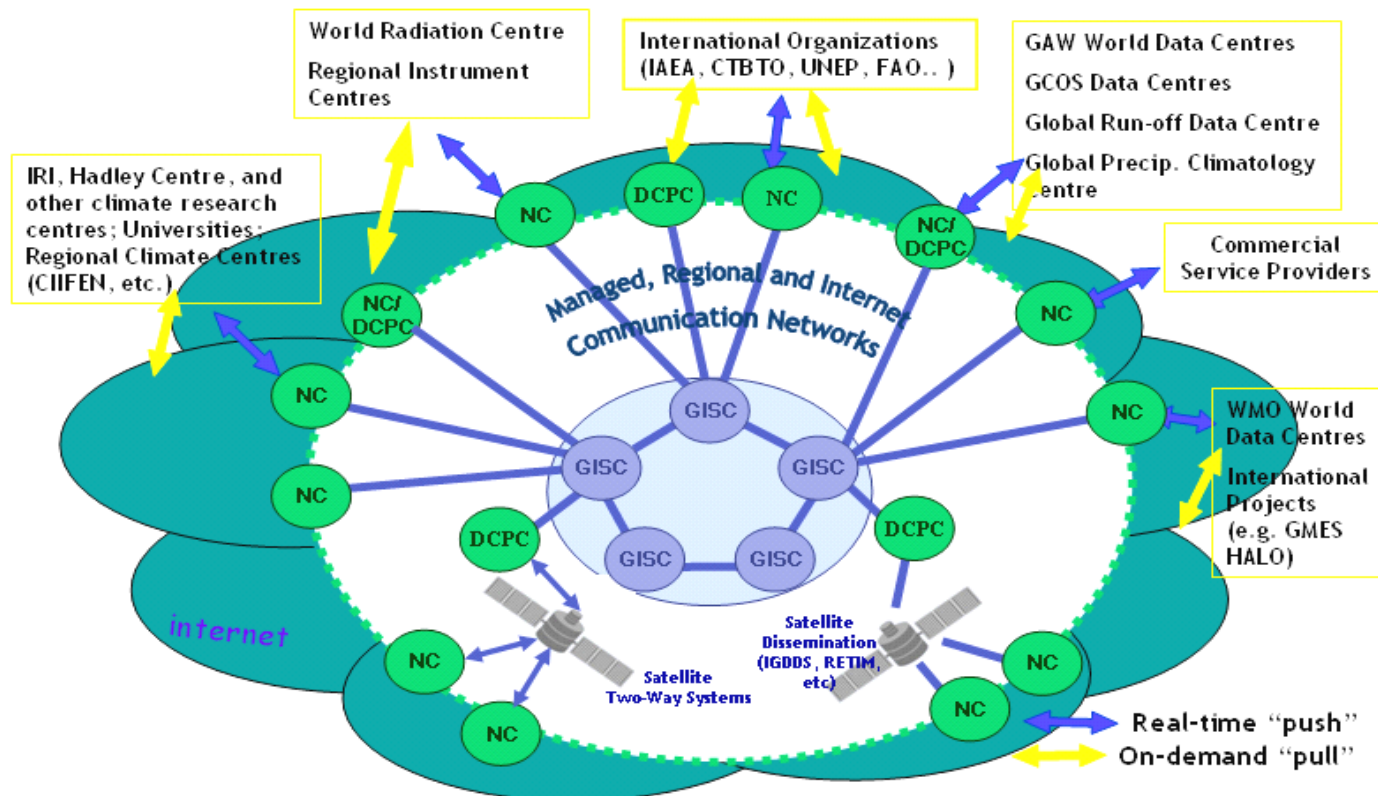
- Capability to Exchange Massive Data Volumes

- Incorporation of Data from Special Programs

- Incorporate Real Time as well as Non Real Time Data

- Discovery of (New) Data

WMO Information System (WIS)



Comparison GTS - WIS

The Structures are Looking Similar – but it is a Data Management Approach

The Established Centres are not only Telecommunication Hubs but Data Centres

They provide

- „Essential Data“ for Real Time Dissemination (so-called „Push Mode“)

- „Additional Data“ for Access & Download on Request (so-called „Pull Mode“)

- Metadata Catalogues for Data Discovery

- Subscription Facilities for a Flexible Data Supply

Backup Facilities

- Some Data Centres in WIS Exchange their Data and Synchronize their Metadata (GISC Interconnection)

The WIS Hierarchy: GISC – DCPC - NC

Global Information System Centre (GISC)

< 10 GISCs in the World with Geographical Disjunctive Areas of Responsibility

Uploading Tasks:

GISCs are collecting all the „Essential Data for Global Exchange“ from the DCPCs and NCs in their Area of Responsibility

Exchange Tasks:

GISCs are Exchanging Data & Products with the other GISCs
Metadata Catalogues of GISCs are Synchronized

Dissemination Tasks

GISC disseminates all „Essential Data“ to the Centres in its Area of Responsibility
GISC provides „Additional Data“ for Subscription for a Certain Time

Storage Tasks:

GISC stores all „Essential Data for Global Exchange“ for at least 24 hours
Metadata Catalogues and Subscription Data are kept for ever

The WIS Hierarchy: GISC – DCPC- NC

Data Collection and Production Centre (DCPC)

Probably a huge number: EUMETSAT, ECMWF, IPY, WCC

Uploading and Production Tasks:

- DCPC can have the Role of a Regional Data Collection Centre

- DCPC produces and collects special program-related data & products

- DCPC generates metadata for its special program-related data and products

Exchange Tasks:

- DCPC provides its program-related data and products intended for global exchange to its GISC

- DCPC supports access to its special program-related data via „Pull Mode“

Dissemination Tasks

- DCPC with a Role of a Regional Data Collection Centre can disseminate all data intended for global Exchange to the NCs in its Area of Responsibility

- DCPC disseminates its special program-related data not intended for global exchange to its subscribed customers

Storage Tasks:

- DCPC stores and archives its special program related data

The WIS Hierarchy: GISC – DCPC- NC

National Centre (NC)

Certainly a huge number

Uploading and Production Tasks:

- NC collects observation data in its country

- NC produces national products

- NC generates metadata for its national data and products

Exchange Tasks:

- NC provides its national data and products intended for global exchange to its GISC

- NC provides data and products for regional use to its DCPC“

Dissemination Tasks

- NC sends data and products for national use to its national customers

- NC authorize its national users to access WIS

Storage Tasks:

- NC stores and archives its national data and products

Realisation of WIS, Establishing GISCs

GISC candidates:

RA I (Africa): ?

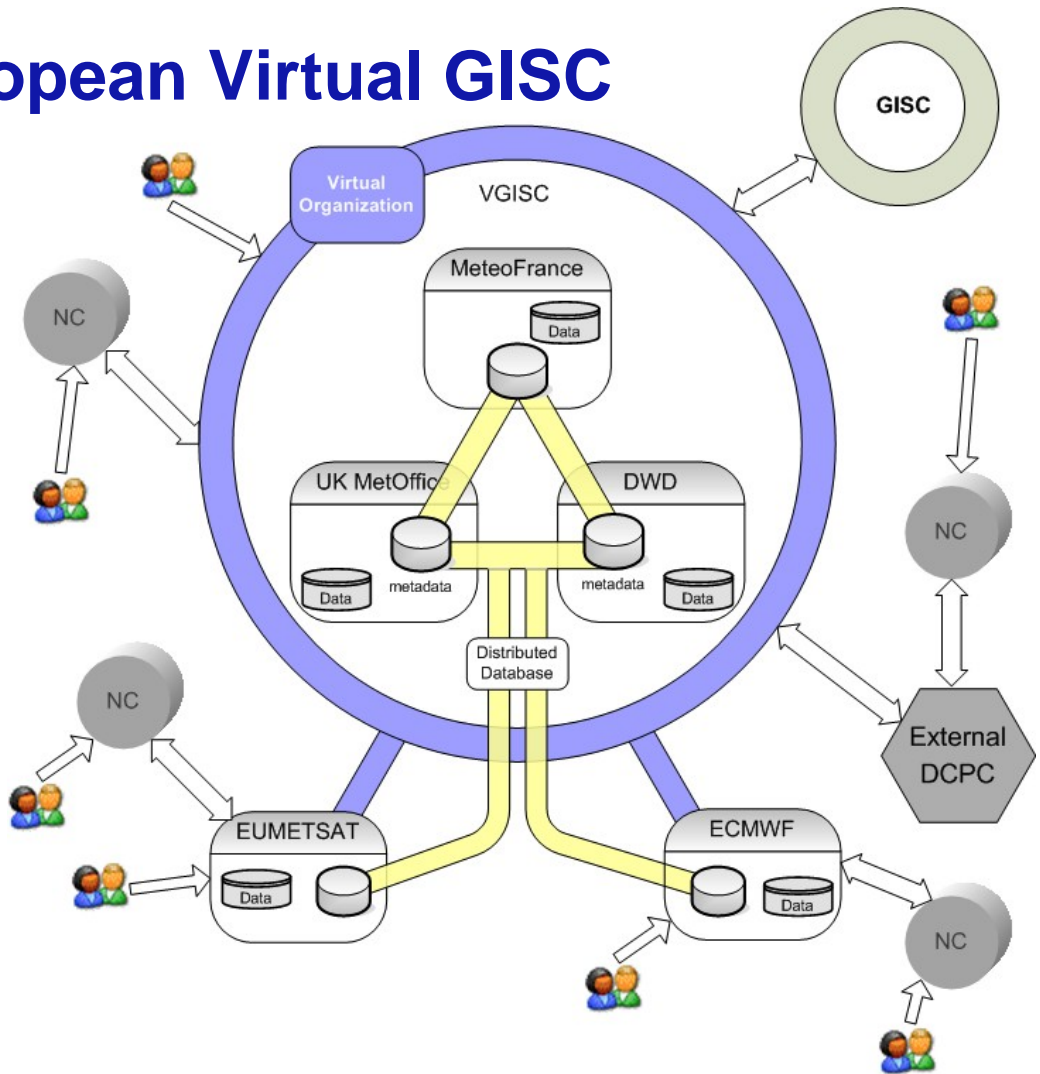
RA II (ASIA): 1. Collaboration of CMA, China and JMA, Japan
2. India (?)

RA IV (North & Central America): NCAR, USA

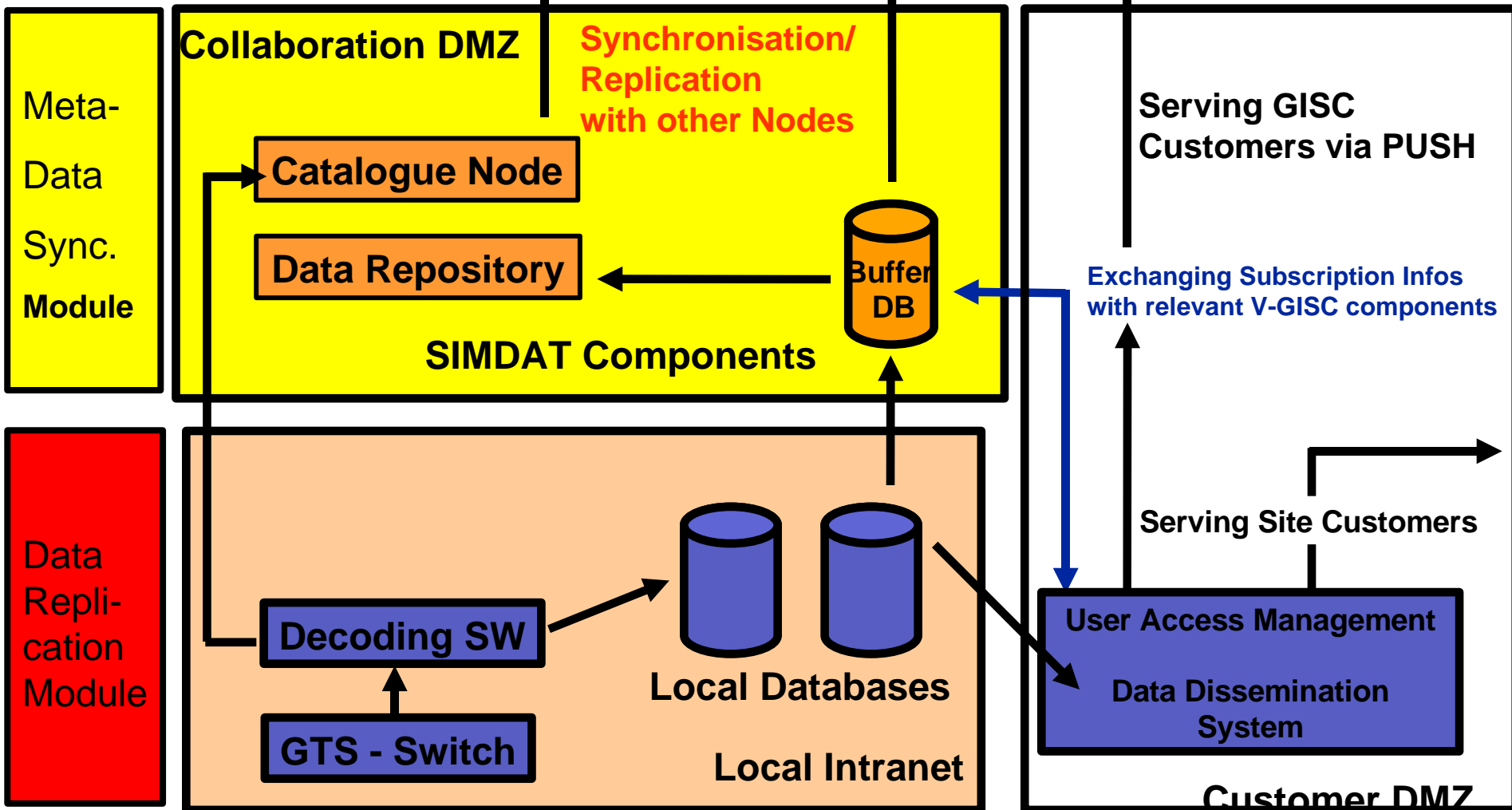
RA V (South West Pacific): ABM, Australia

RA VI (Europe): 1. Collaboration of France, Germany, Norway and UK
2. Met. Or Data Centre of Russia (?)

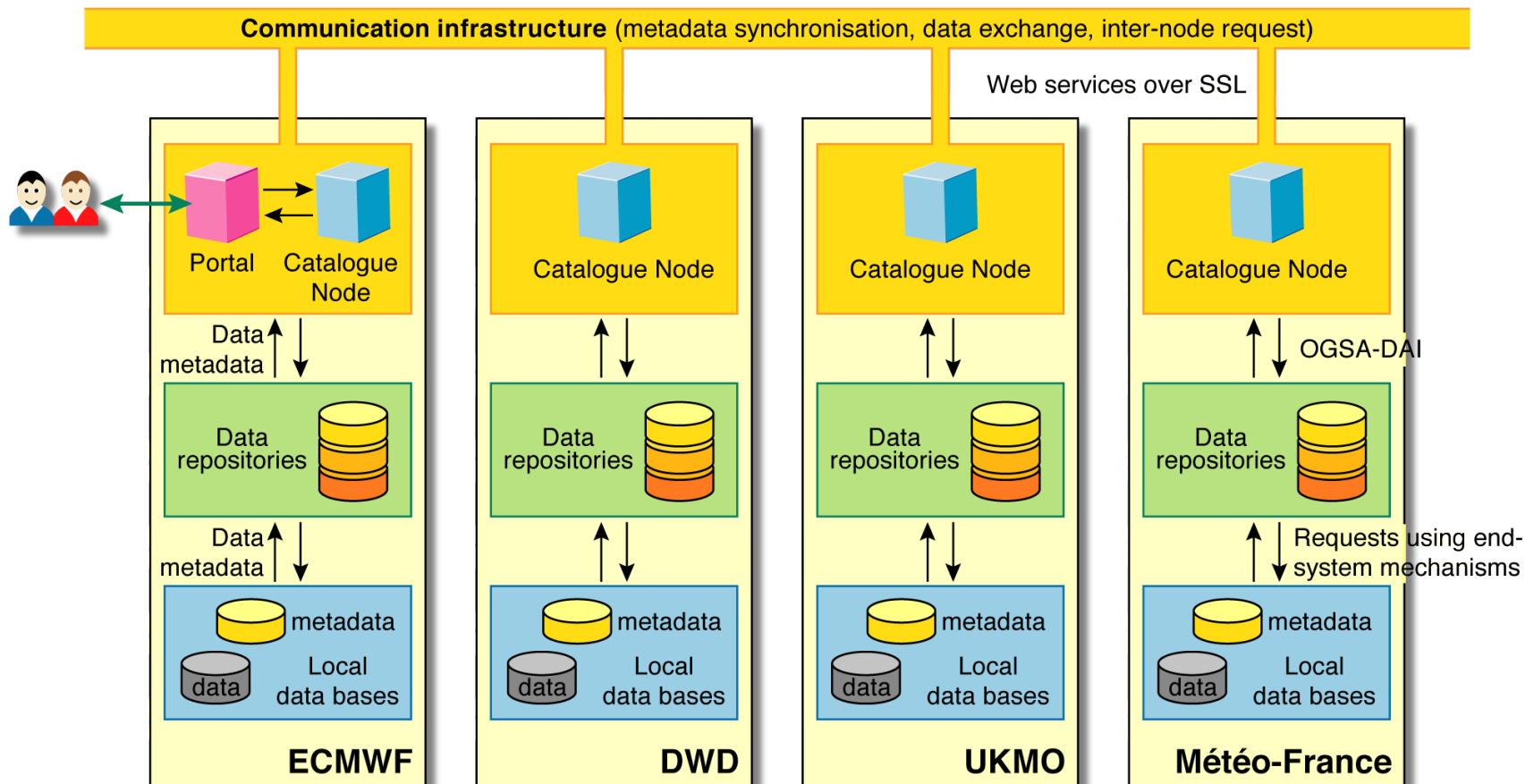
VGISC: The West-European Virtual GIS



VGISC: Technical Aspects, VGISC Architecture



SIMDAT Project: Meteorology Activity



ITT for the VGISC Software

Components for VGISC:

GTS-Switch (MSS) and Local Data Management Components ☺

Data Discovery & Pull Mode: Catalogue Node, Data Repository,
Metadata Facilities, Data Access to Local DB SIMDAT Project

Metadata Synchronisation within VGISC and to other GISCs SIMDAT

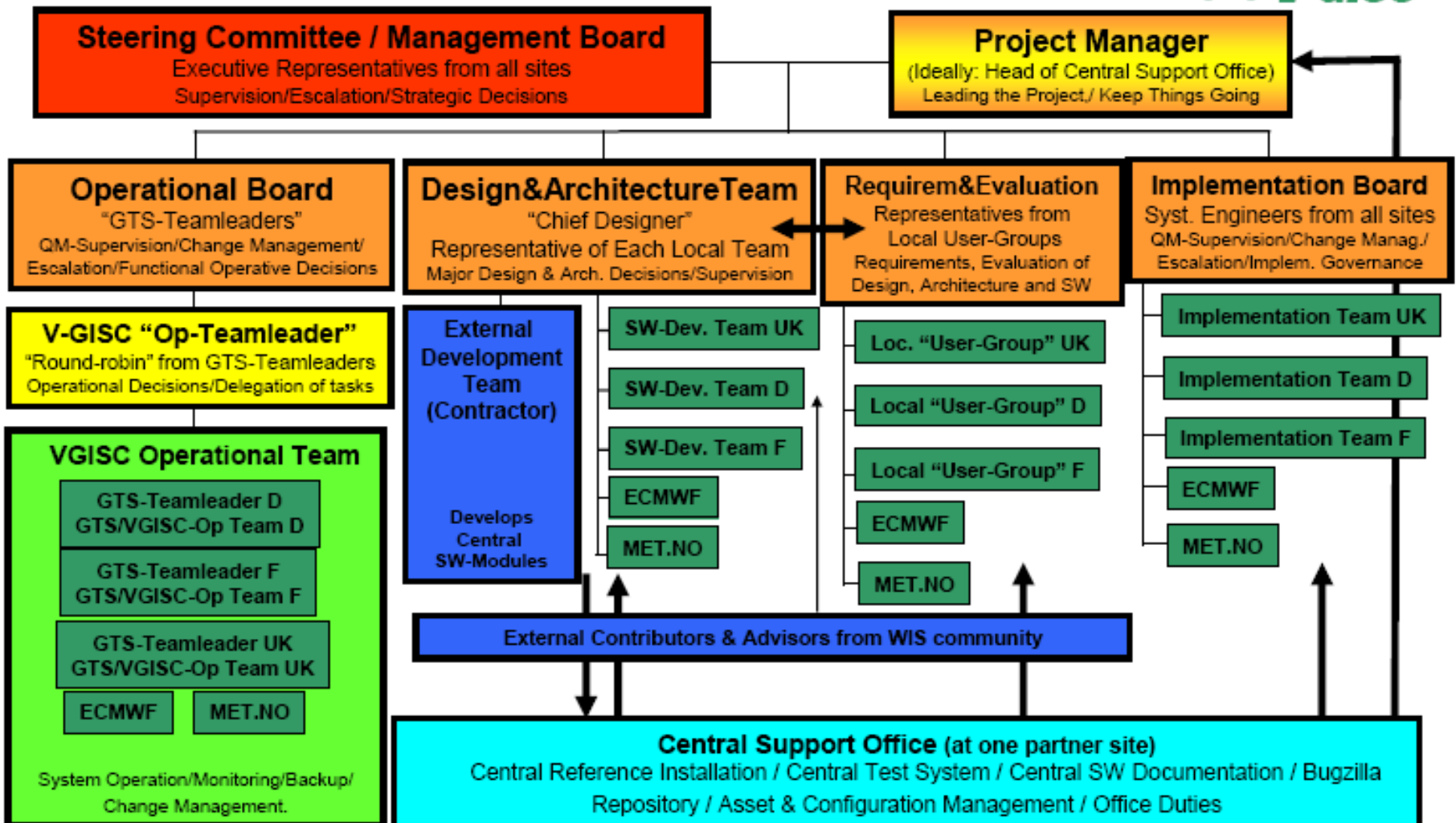
Data Replication and Backup Procedure tbd

GTS Ingestion/Integration Module Meteo France

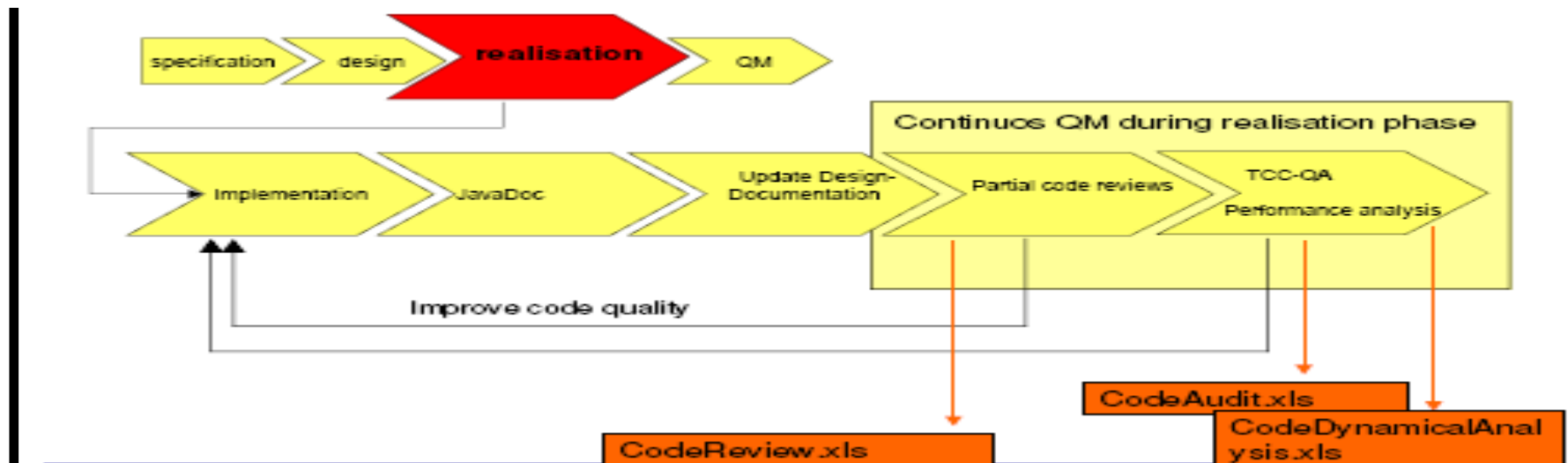
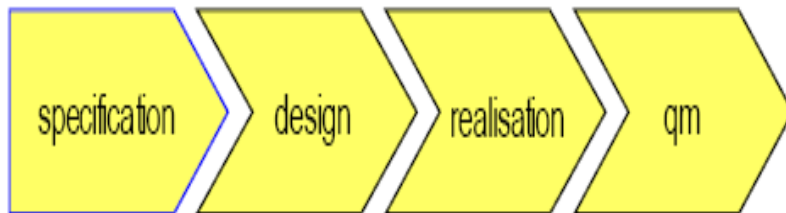
Push Mode: Subscription and Data Dissemination WebWerdis (DWD)
DIFMET (Meteo
France)

Local System Integration & interoperability Tasks tbd

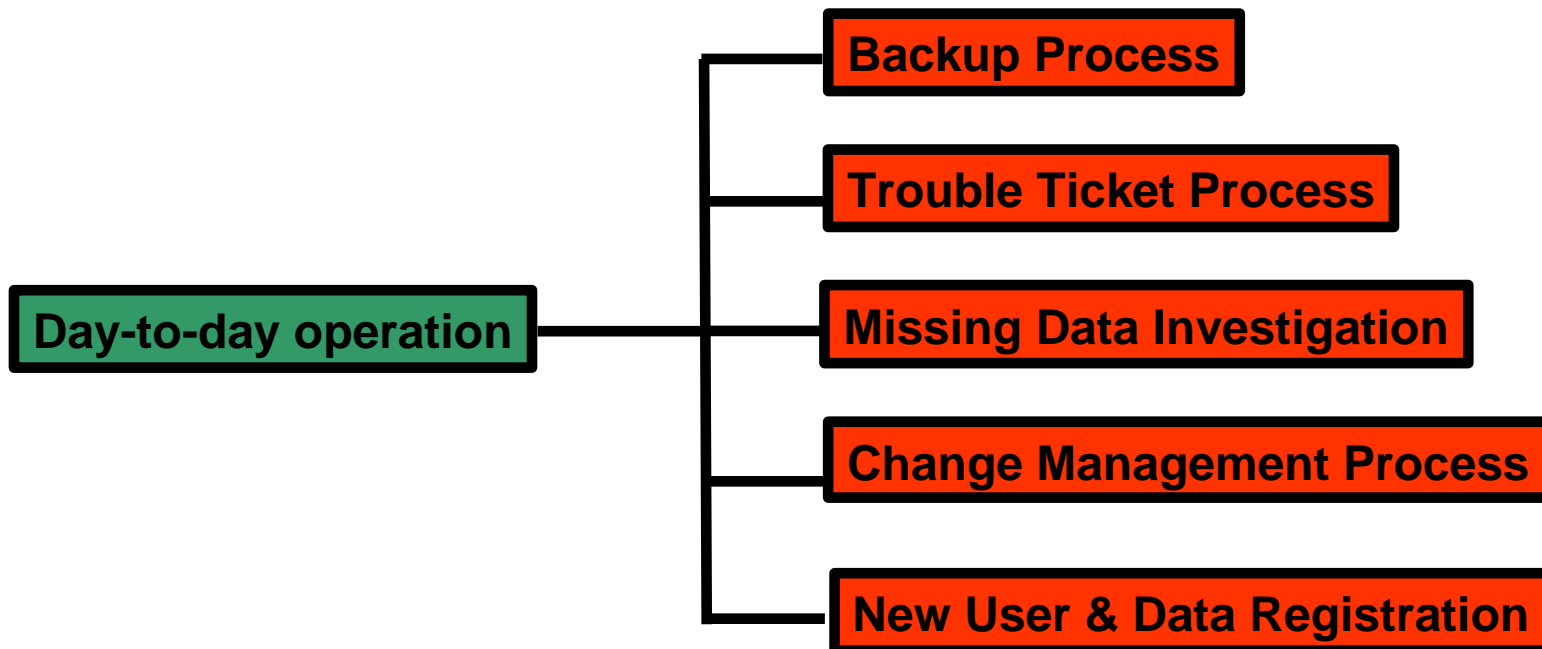
VGISC Organisational Aspects: Structural Organisation



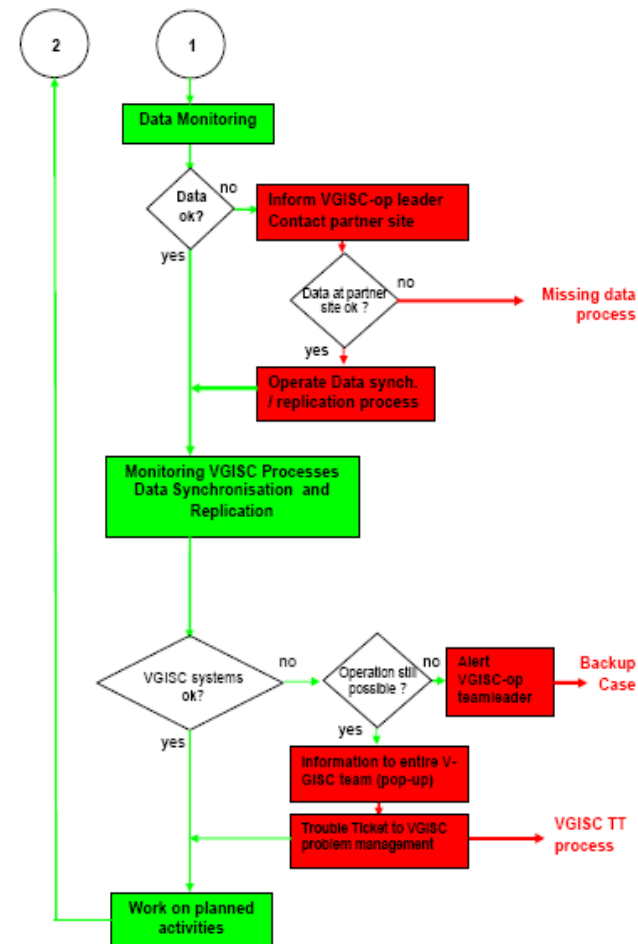
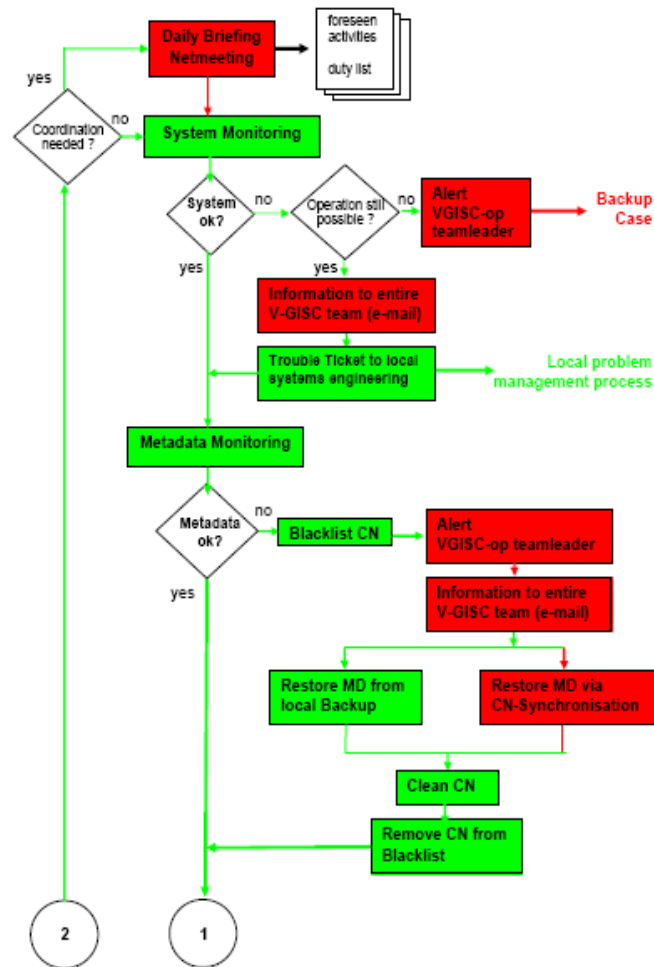
VGISC Operational Aspects: SW Development Process



VGISC Operational Aspects: Day-to-Day Operation Processes



VGISC Organisational Aspects: Operation Process



Learning the Operational Cooperation Process

Establishing a Collaborative VGISC Operational Team as a Virtual Organisation on the Basis of Classical Communication Tools (Telephone, E-Mail, ...) is an Illusion

Collaboration over the NMS Boundaries in a VO Environment has to be Supported by Professional Cooperation Tools in the Operational Environment

- At least a Desktop Videoconference System

- Shared Operation & Monitoring Consoles

- Shared Document Facilities

- Cooperative Calendar Tools

There has to be a Training Phase for the VO Cooperation of the Operational Teams Involved before VGISC operation

- To Exercise Communication and Decision Making in the Multinational VO

- To Accept Guidance of a Teamleader outside the own National Team

- If the GTS Teams are Involved the Pilot Task should be in the GTS Environment

Any Questions or comments?

