Operation of GISC Tokyo

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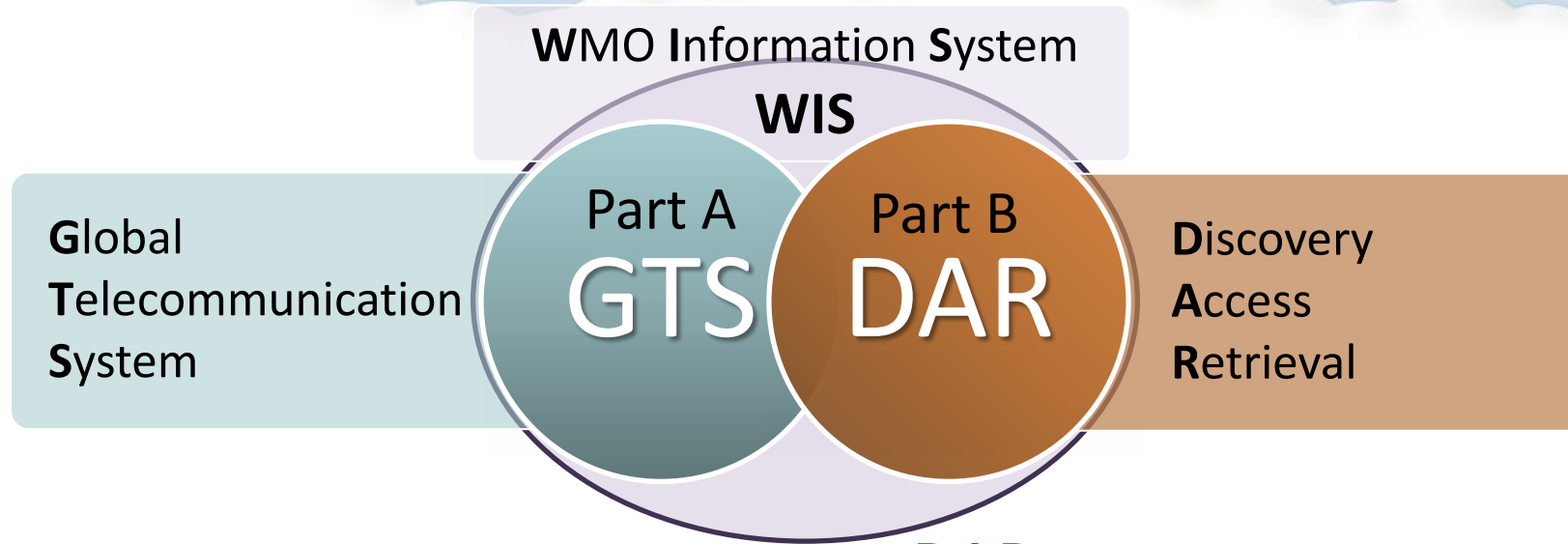
Japan Meteorological Agency

Contents

- Review of WIS (not WIS2.0)
- New features of GISC Tokyo

The WIS components

- Part A: GTS continues to play a role of data exchange and further improvements for data delivery.

  - Time critical and operation critical data delivery based on real time push communication method via dedicated communication lines.

  - Timely delivery based on delayed mode push via combination dedicated and public networks.

- Part B: Extension data delivery services through flexible data discovery, access and retrieval services.

  - Data discovery, Access and Retrieval services based on pull (download) via the internet network.

The WIS components

WMO **I**nformation **S**ystem

WIS

Global **T**elecommunication **S**ystem

Part A
GTS

Part B
DAR

Discovery **A**ccess **R**etrieval

- GTS:
  - time-critical and operation-critical delivery
  - based on real-time "push"
  - via the dedicated telecommunications network

- DAR:
  - extension of services through flexible data discovery, access and retrieval services, as well as flexible timely delivery
    - Large volume data, search and retrieve, data catalogue (Metadata)

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AMDCN
## (Area Meteorological Data Communication Network)
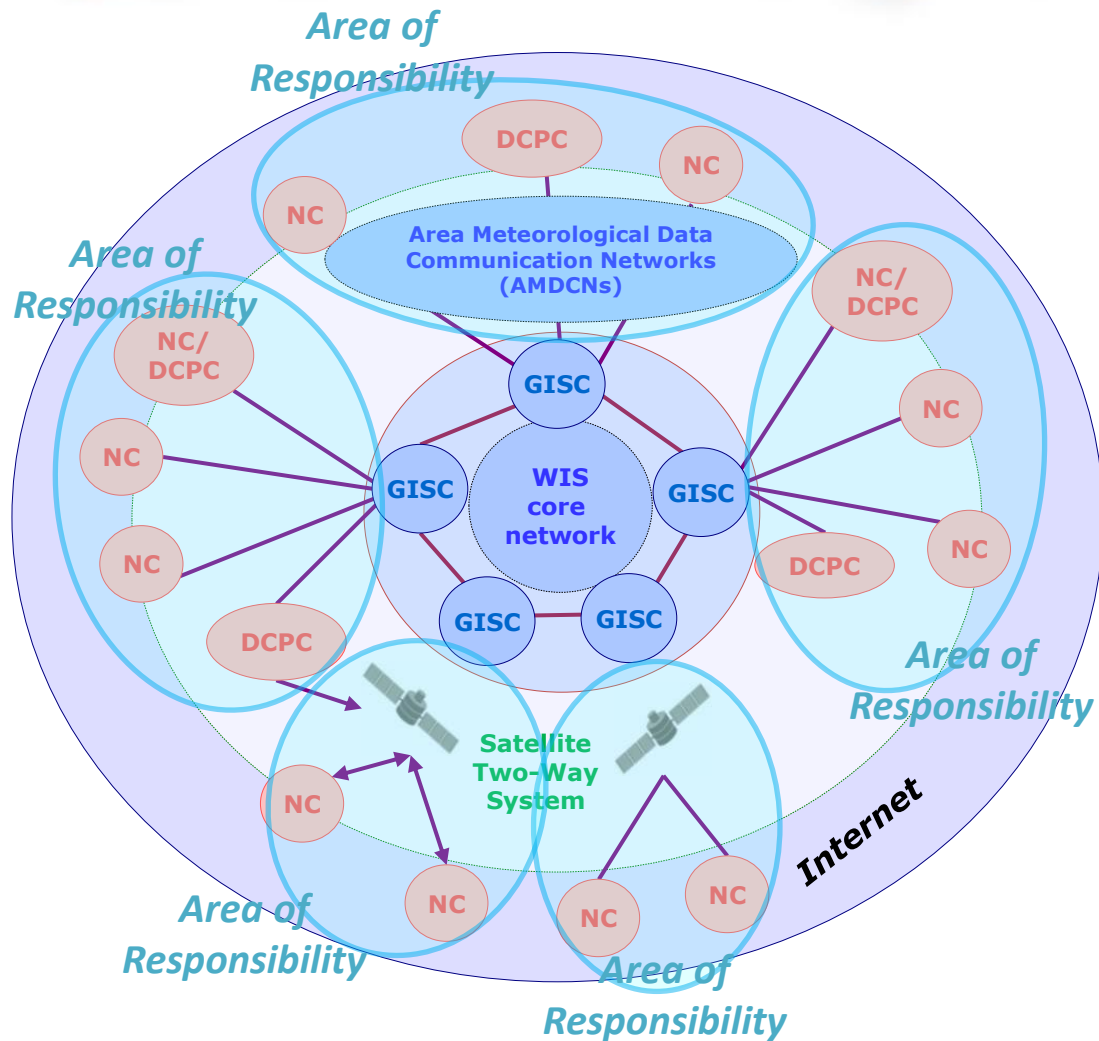
- **NCs: National Centres**
  - National Meteorological and Hydrological agencies are NCs.
  - Focus on national role
- **DCPCs: Data Collection or Production Centres**
  - Global or regional centres are categorized as DCPCs.
  - Focus on international role
- **GISCs: Global Information System Centres**
  - GISCs hold and distribute WMO data intended for global distribution.
  - Each GISC has AoR.
  - GISCs store data into GISC Cache at least 24 hours.

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Interoperability of WIS network
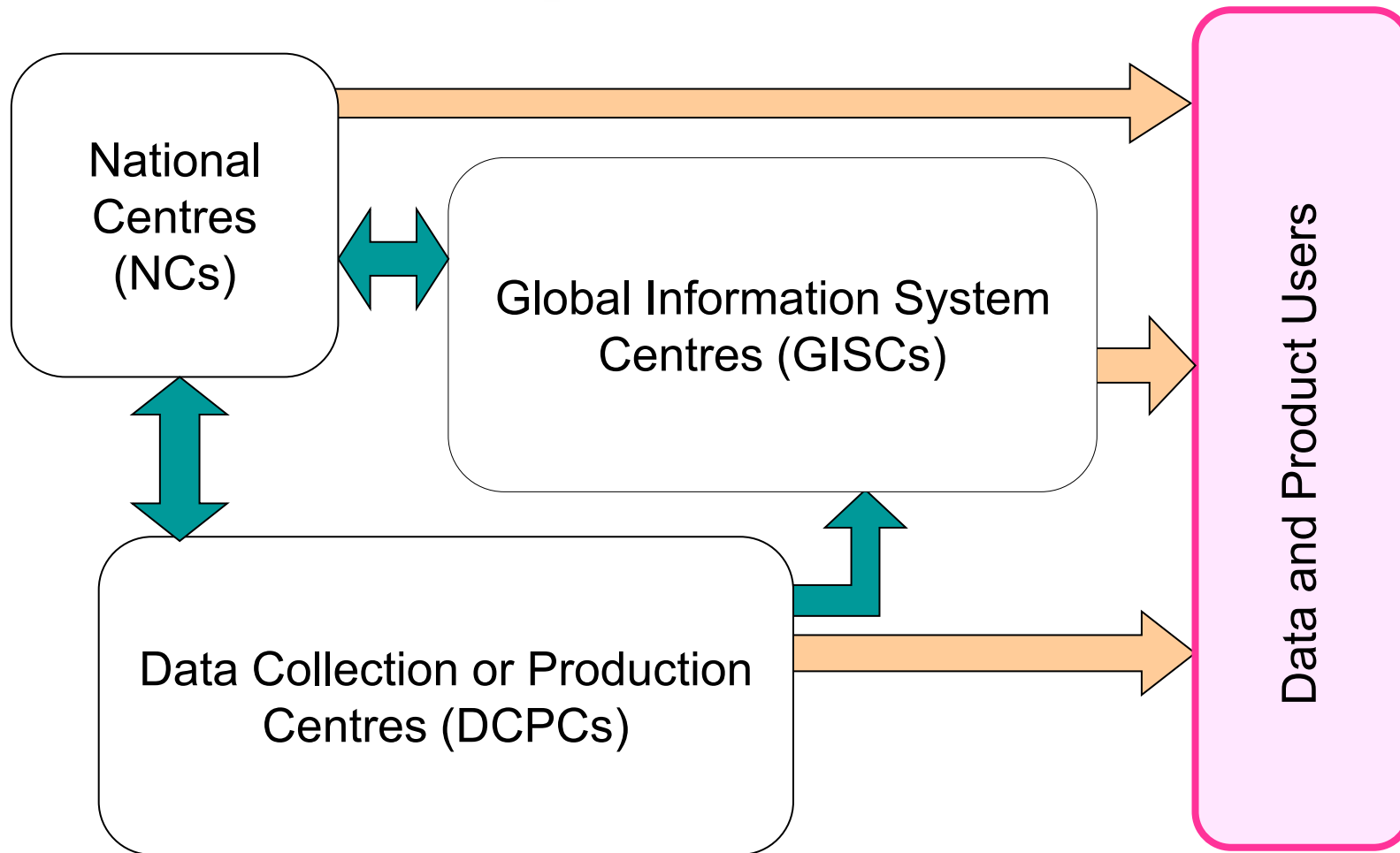
Connection with GISC Tokyo
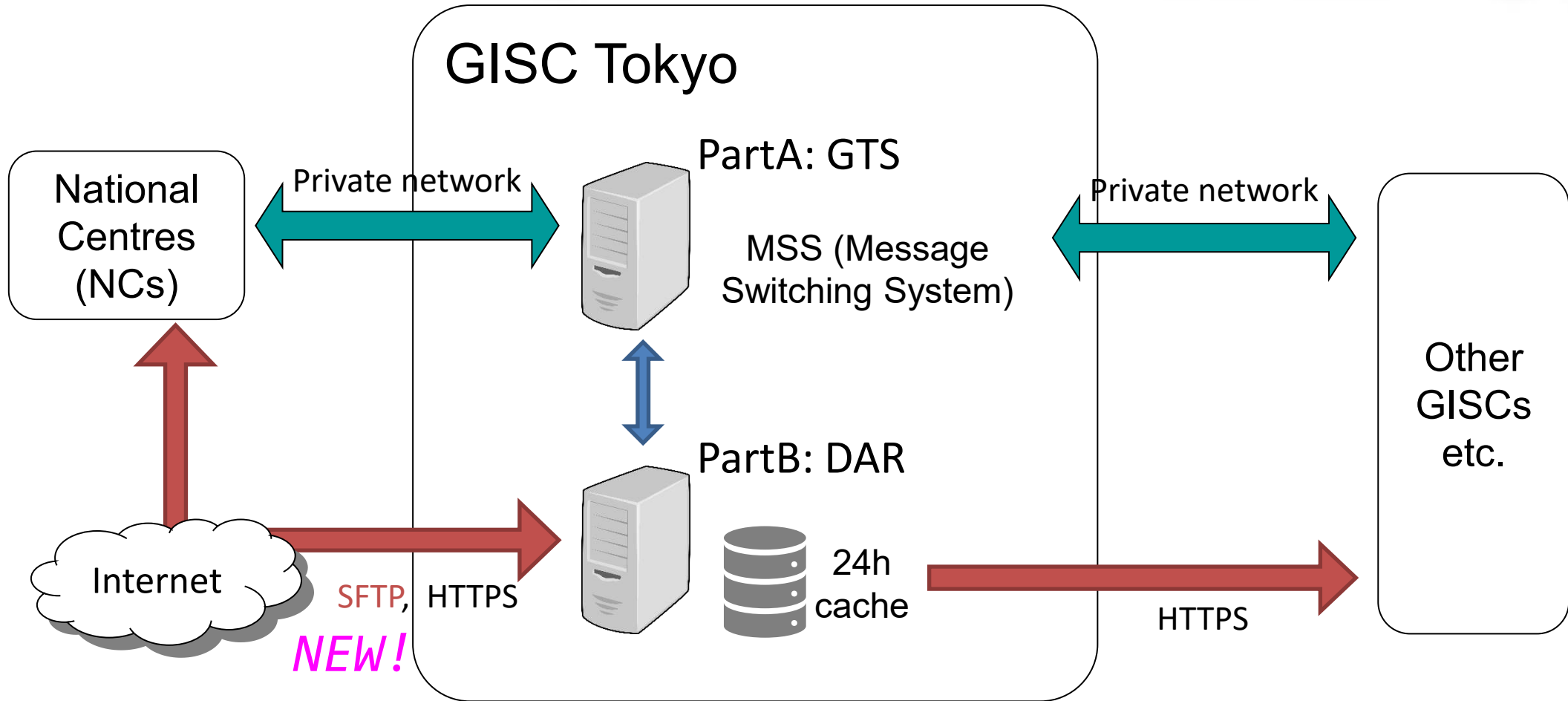
Difference between FTP and SFTP

- FTP

  - File Transfer Protocol

  - Default port number: 20, 21

  - All communication such as user authentication information (user name, password) and files are transferred without encryption.

- SFTP

  - SSH File Transfer Protocol

    - SSH: Secure Shell.
      SSH is also a protocol.

  - Default port number: 22

  - All communication on the network is encrypted.

  - Secure!

Difference between HTTP and HTTPS

- HTTP

  – Hypertext Transfer Protocol

  – Default port number: 80

  – All communication such as user authentication information (user name, password) and files are transferred without encryption.

- HTTPS

  – Hypertext Transfer Protocol Secure

  – Also referred as HTTP over TLS/SSL

    - TLS: Transport Layer Security

    - SSL: Secure Socket Layer

  – Default port number: 443

  – All communication on the network is encrypted.

  – Secure!

Differences between GTS and DAR

	GTS	Internet (DAR)
Management	Private network managed by WMO	Open network with no firm management body
Bandwidth	Contract value	Best effort
Controllability and predictability in traffic	Controllable and predictable	Unable or difficult
Security	Secure	Insecure?
Costs	Dedicated telecom cost on a tariff basis	ISP and hidden security costs

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Security	Secure	~~Insecure~~ → Secure with SFTP/HTTPS
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