

# **GISC Tokyo's Cloud Implementation**

**TONOOKA Yutaro**

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# Cloud Strategy in Japan

- **The Government Cloud (Gov-Cloud)** - "Cloud First" policy in Japan

A shared IT infrastructure that enables central government ministries, independent administrative agencies, and local governments to jointly use business systems as cloud services.

- **Key features**

Unified Infrastructure, High Security and Compliance, Scalability & Flexibility, Multi-Vendor Architecture, and Centralized Governance

- **Benefits**

Cost Efficiency, Accelerated Digital Transformation, Improved Interoperability, and Disaster Recovery & Business Continuity

# Cloud Strategy in Japan

- **Cloud Service Providers Certified by the Digital Agency of Japan**
  - Amazon Web Services (AWS)
  - Google Cloud Platform (GCP)
  - Microsoft Azure
  - Oracle Cloud Infrastructure (OCI)
  - Sakura Internet (conditionally approved)

**JMA participated in the initial phase of Government Cloud adoption (AWS)**

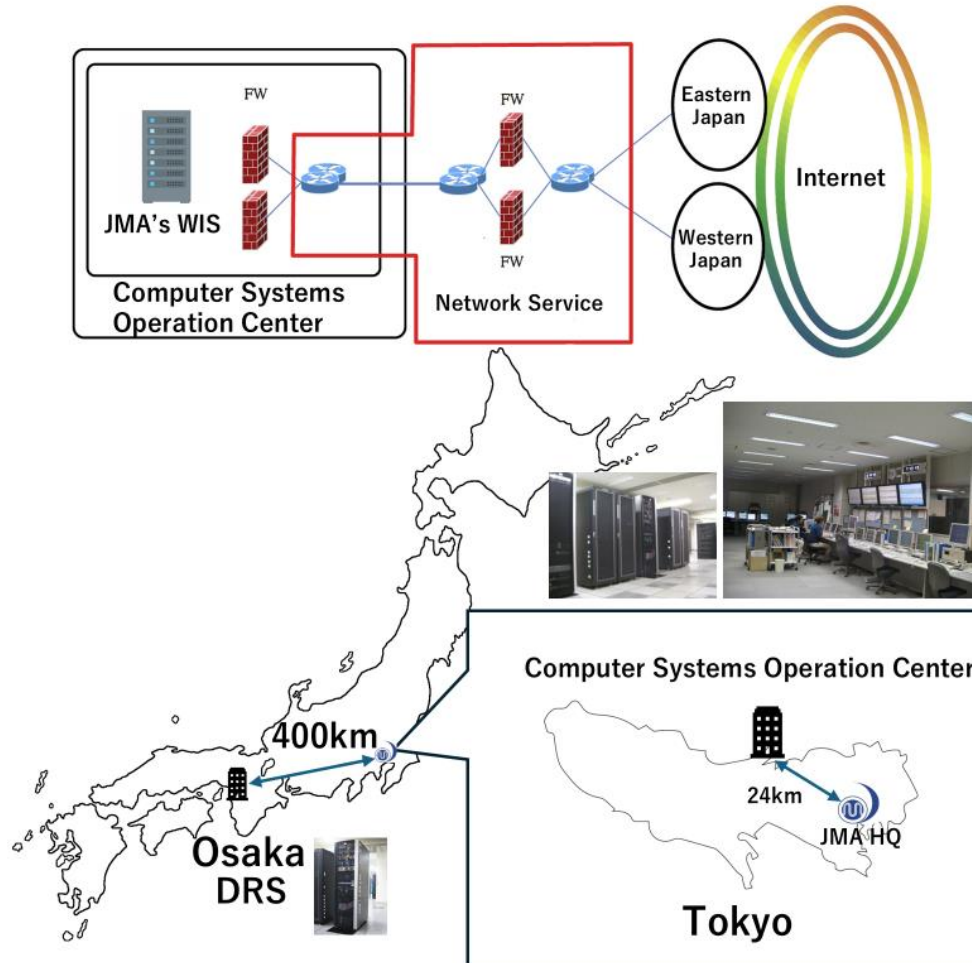
# Compare on-premise with cloud

	On-Premises	Cloud
Operational Cost	24/7 monitoring required	<b>Automated restart reduces manual intervention</b>
Staff Responsibilities	Security, maintenance, repair, development, operations	<b>Mainly development and limited operations</b>
Challenges	Hardware updates, limited spaces	Unpredictable costs, frequent changes of terms and conditions by providers
Education	<b>Stable knowledge base</b>	Continuous learning of latest technologies

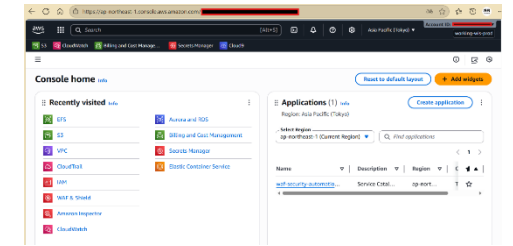
Note: Japan's Cloud First Policy discourages use of **Infrastructure as a Service** such as AWS EC2, and JMA decided to implement wis2box-equivalent functionality internally rather than relying on wis2box that required EC2

# Compare on-premise with cloud

## On-premise



## Cloud



# GISC Tokyo's Cloud Implementation

- **JMA has adopted the cloud as part of the system update.**

“Government Cloud”, “Cloud First”

- **Requirement: Modernization**

- Build systems by function, without relying on OS like Windows or Linux.
- Essential for flexibility, scalability, and maintainability.

- **AWS Cloud Services**

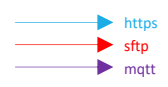
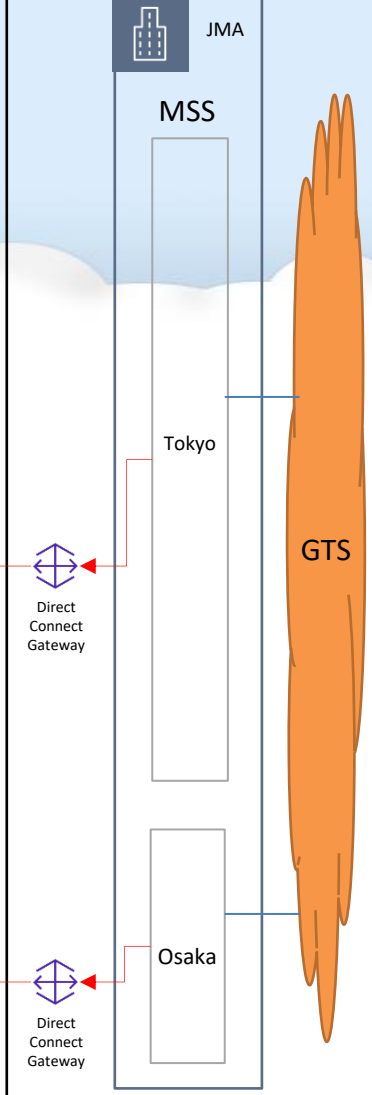
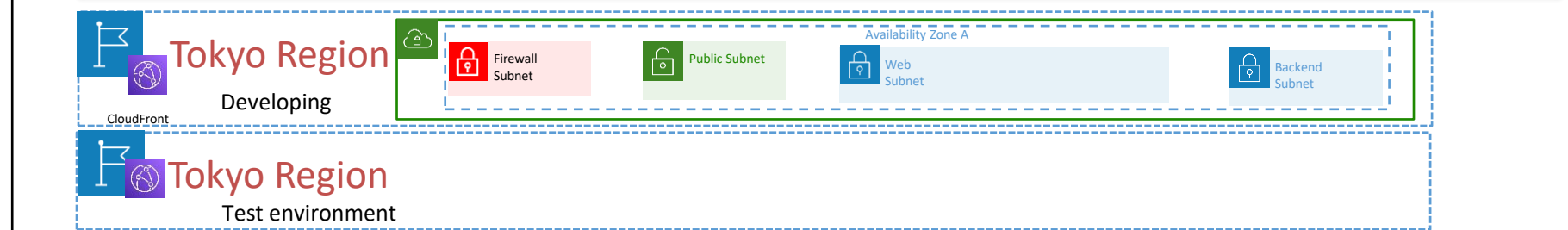
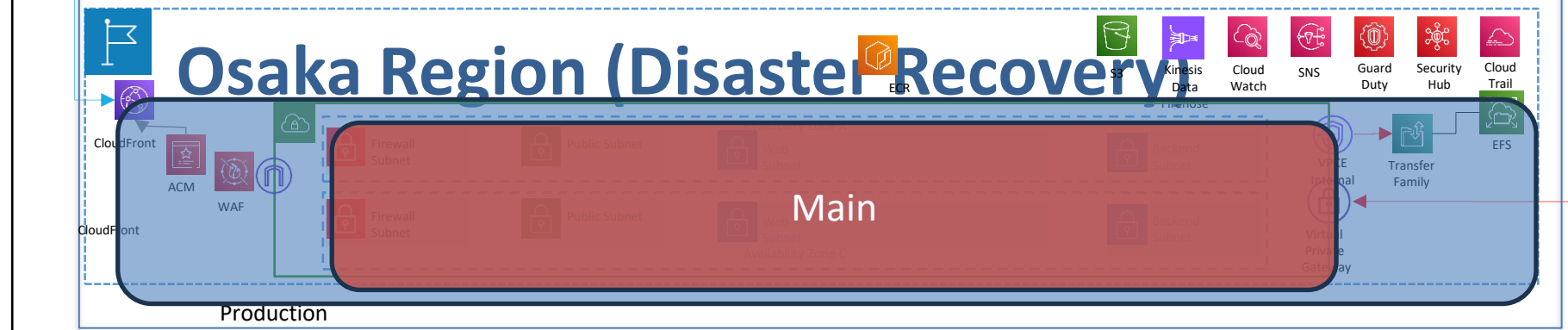
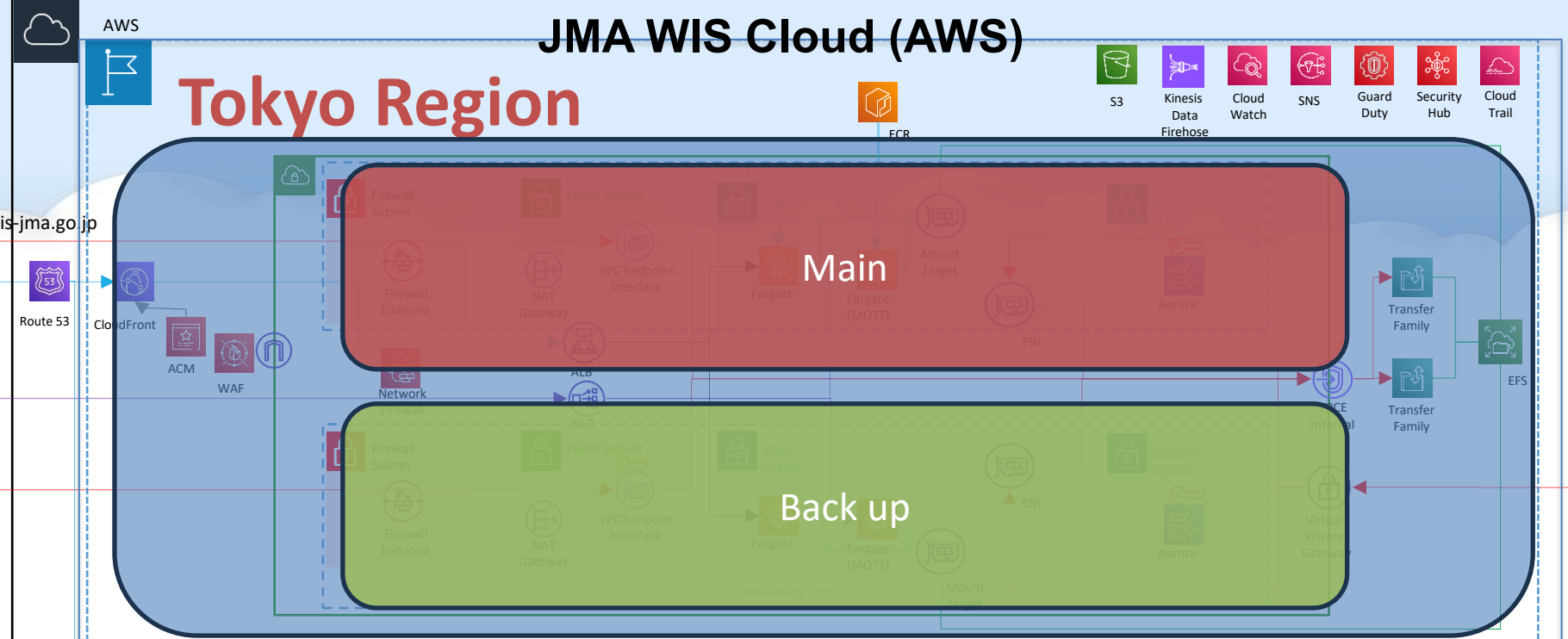
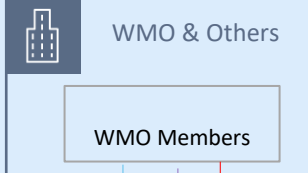


- To achieve modernization.



- Leveraged **serverless** and **microservices architecture** for scalability and cost efficiency.





# STRUCTURE OF JMA WIS CLOUD

## Simplified Guide of AWS functions



**Amazon S3** is a scalable, secure, and durable cloud storage service that allows users to store and retrieve any amount of data at any time.



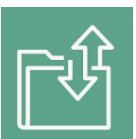
**Amazon Aurora** is a high-performance, fully managed relational database service designed for the cloud, compatible with MySQL and PostgreSQL.



**AWS Lambda** is a serverless computing service that lets you run code without provisioning or managing servers.



**AWS Fargate** is a serverless compute engine for containers that lets you run containers without managing servers or clusters.



**AWS Transfer Family** is a fully managed service that enables secure file transfers to and from Amazon S3 using standard protocols like SFTP, FTPS, FTP, and AS2.

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# SECURITY OF JMA WIS CLOUD

- **Access Blocking due to WAF (Web Application Firewall)**

Previously permitted access was identified by AWS WAF as a malicious attack, resulting in several users being unable to retrieve data.

- Accessing data an incorrect or non-existent file results in a **failed request**
- Failed requests are counted as **errors**
- **More than 200 access errors per minute** triggers WAF
- WAF activation → **Access blocked for 4 hours**

**Using a predefined file name before the file is generated can easily result in errors or failed access.**

Question?

Thank you for your attention  
See you next time!

