CASE STUDY

Environmental Agency (EA) Japan

Ziliont ingests over 100 TB of IoT records (1 Trillion), files and SQL data in Ziliont DB for analysis. Data is mirrored in real-time to long-term media for backup and archive.

The Challenge

EA receives over 1 Trillion sensor records from 5.8 million environmental sensors – which is over 100 TB of data – every day. In addition there is daily volume of 2 TB of office files, SQL records, videos, SMS and other data to analyzed and cross-referenced against IoT sensor data. Existing solution could handle only 8% of the data volume.

> EA loads 100TB of IoT into Ziliont DB **daily**. Real-Time analysis cross-correlates IoT data with reference values.

Additional challenges facing EA was the lack practical solution to +50-year archive 100TB of IoT data every day, while daily backup was non-existent and data was left exposed. Government Data Protection Regulation have forced EA to look for a system that scaled to current and future data volumes, while providing archive and backup functionality integrated with the IoT DB. Carbon footprint of such solution was under scrutiny with the goal to keep EA carbon footprint at zero. Budgetary constraints were significant, allowing for fixed cost for ever-growing data volume and increased analytic complexity. Reference data (office files, SQL parts data, email/SMS) had to be stored permanently and cross-referenced with IoT data.

The Solution

Ziliont Solution was sized to load more than 250 TB of IoT data daily – to allow for planned future growth. All IoT data is – in parallel to DB ingest – written to optical archive for archival and backup purpose. Non-IoT data (office files, SMS/email, video etc) is also indexed and stored in Ziliont DB and mirrored to optical media. Ziliont can also connect with enterprise systems using SQL.

Ziliont has shown +99.99% uptime by replicating data to multiple DR sites operating in active-active mode. The analytic application was migrated – unchanged – from the old system. Certified Ziliont system integrator defined the performance, availability profiles and helped deploy and customize the Ziliont Solution for the customer.

The Advantages

- EA can handle current and future IoT needs - both storage and analytics
- Ingest speed leaves over 70% margin for operational slowdowns
- Ziliont Solution meets government regulations regarding long-term archive and protection of environmental data.
- Analytic capabilities vastly exceed the requirements by enabling full historical cross-correlation of IoT and reference data.

CUSTOMER PROFILE

INDUSTRY
Environmental Telemetry (EA)

SIZE
2,500

HEADQUARTERS
Tokyo, Japan

BUSINESS REQUIREMENTS
Analysis of Environmental data

SOLUTION SUMMARY

AA High-Speed Loader
AA Analytic Repository
AA Archive Repository
AA Fraud & Compliance
AA Discovery

DATA TYPES
IoT, SMS, files, SQL data, video

KEY BENEFITS

- EA loads 1 Trillion IoT records (equal to 100 TB) every day into Ziliont DB and Ziiont Archive
- EA runs million+ analytic queries per day.
- Real-time alerts and warnings are issued if values or trends are outside predefined parameters
- Primary DB (155 PB) is fully mirrored by a 2nd site.
- Ziliont Archive can retrieve any historical data and ingest it into Ziliont DB
- Ziliont Multi-Site Replicator keep mirror DB in sync with the primary Ziliont DB