The Aviation Cloud

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“I believe that data from aircraft, including from the black box could be continuously transmitted and stored in data centres on the ground”

H.E. Ahmad Shabery Cheek, Minister for Communications and Multimedia, Malaysia

Expert Dialogue on Real-time Monitoring of Flight Data, including the Black Box – the Need for International Standards in the Age of Cloud Computing and Big Data

26-27 May 2014, Kuala Lumpur, Malaysia, hosted by the Ministry of Communications and Multimedia, facilitated by ITU

Positive response from organizations in the avionics and ICT sectors. Please see me for more details and if your organization wishes to attend.
Cloud computing

“A paradigm for enabling network access to a scalable and elastic pool of shareable physical or virtual resources with on-demand self-service provisioning and administration.”


Big data

“High-volume, high-velocity and high-variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision making.”

Source: Gartner
Challenges associated with cloud computing and big data

Technical, regulatory and policy issues
- Interoperability, standards
- Avoid vendor lock-in
- Reliability
- Liability
- Security (integrity, availability, authenticity, non-repudiation)
- Privacy
- Access policy
- Ownership of data
- Geographical location of data storage
- etc.

Cost and business models
- All require thoughtful analysis, consideration and action

ITU and its membership (Member States, Regulators, Industry, Academia) are in an opportune position to address these challenges.
Use of cloud computing and big data in different sectors of the economy

Retail
- “Customers who bought this item also bought” real-time customer data analytics; idle computing resources as a service

Healthcare
- Remote patient monitoring; electronic health records; comparative effectiveness research; analytics of global disease patterns

Telecommunications
- Identification of network problems and bottlenecks in real time; operations and billing support; churn prevention

Transportation
- Real-time traffic and weather information (using on-board sensors; roadside infrastructure; information supplied by road users); provide context for automated driving
The Aviation Cloud - Potential benefits of exploiting cloud computing and big data in the aviation sector

- Support global real-time tracking
- Increase operational and environmental efficiency of commercial aircraft
  - Predict maintenance needs
  - Route optimization
  - Reduce airport stacks
- Better informed travelers

- Potential secondary use of some data, e.g.,
  - Climate science and meteorology
Expert Dialogue

- Start of the discussion on standards for the aviation cloud
- Identify cloud and big data challenges specific to the aviation sector
- Discuss what ICT standards are required to help meet the aviation sector’s needs
- Make the voices of all relevant stakeholders heard
- Move the discussion on the aviation cloud forward, long-term project
- Work in close collaboration with ICAO