



# Cesium Language (CZML)

A JSON schema for  
describing dynamic scenes  
in virtual globes & maps



Matthew Amato  
Analytical Graphics, Inc.  
mamato@agi.com  
@matt\_amato



# What is Cesium?

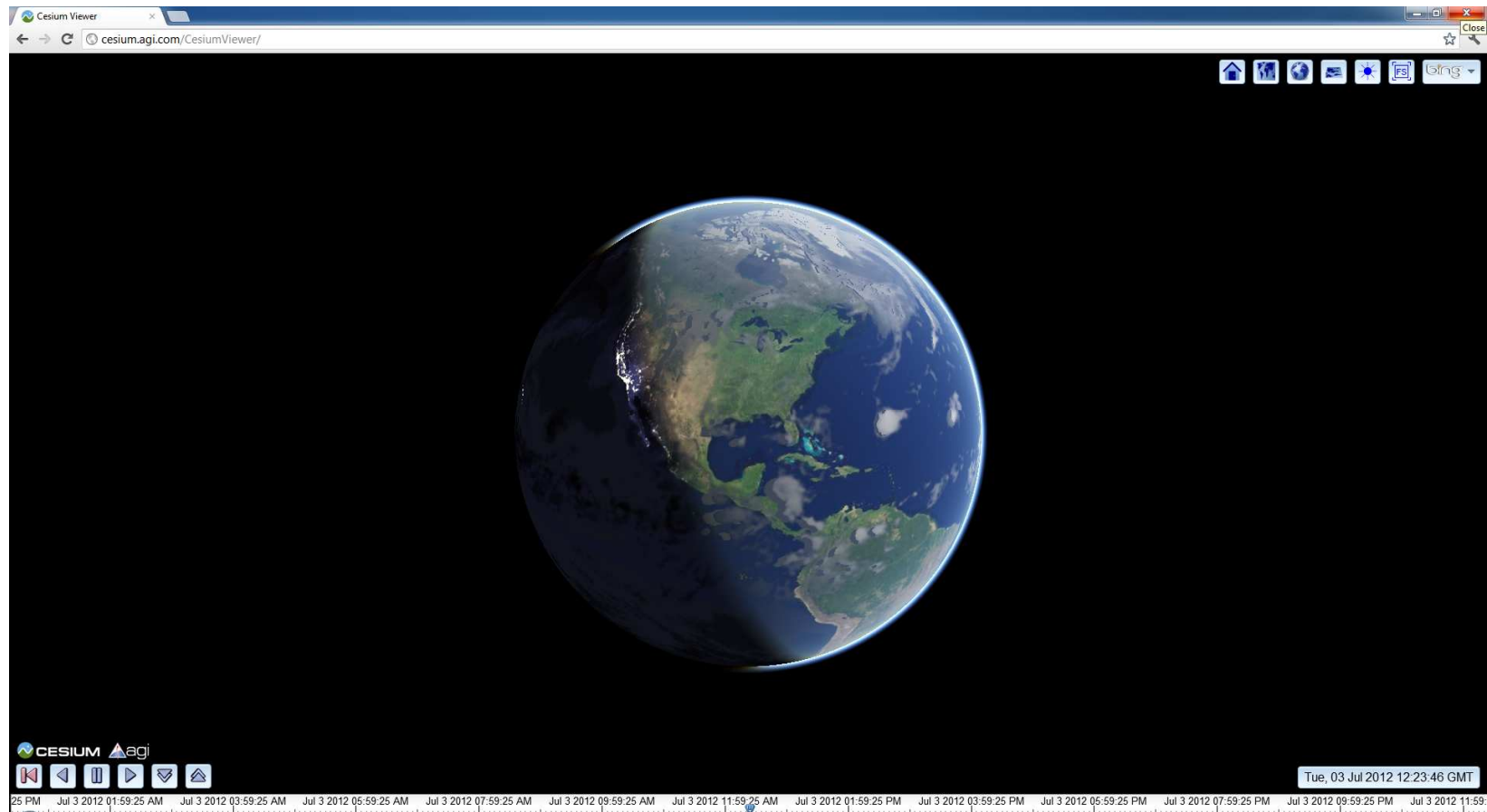


- WebGL based globe and map
- Open source under Apache license
- Code – <http://git.io/cesium>
- Live demos – <http://cesium.agi.com>

# Cesium Viewer



<http://cesium.agi.com/CesiumViewer>



# What is Cesium?



- One API for 2D/3D/Columbus view
- Specializes in precise, dynamic data
- Includes 3 layers of abstraction
  - Low-level renderer JavaScript API
  - Mid-level scene JavaScript API
  - High-level JSON schema for data-driven visualization (CZML)

# What is CZML?

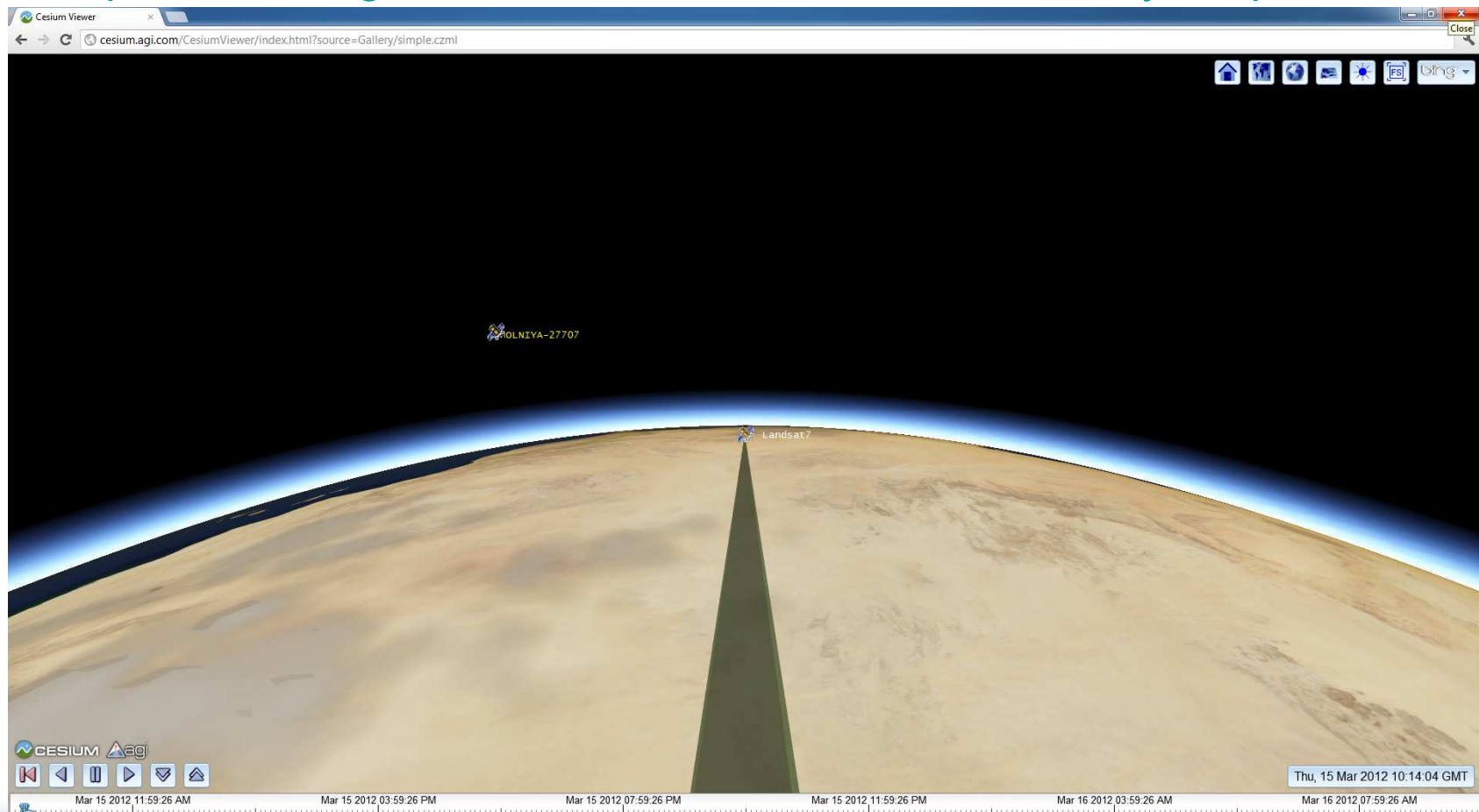


- A JSON schema
- Accurately describes data over time
- Streamable and optimized for clients
- Easy to read and write
- An open and extensible format

# File based demo



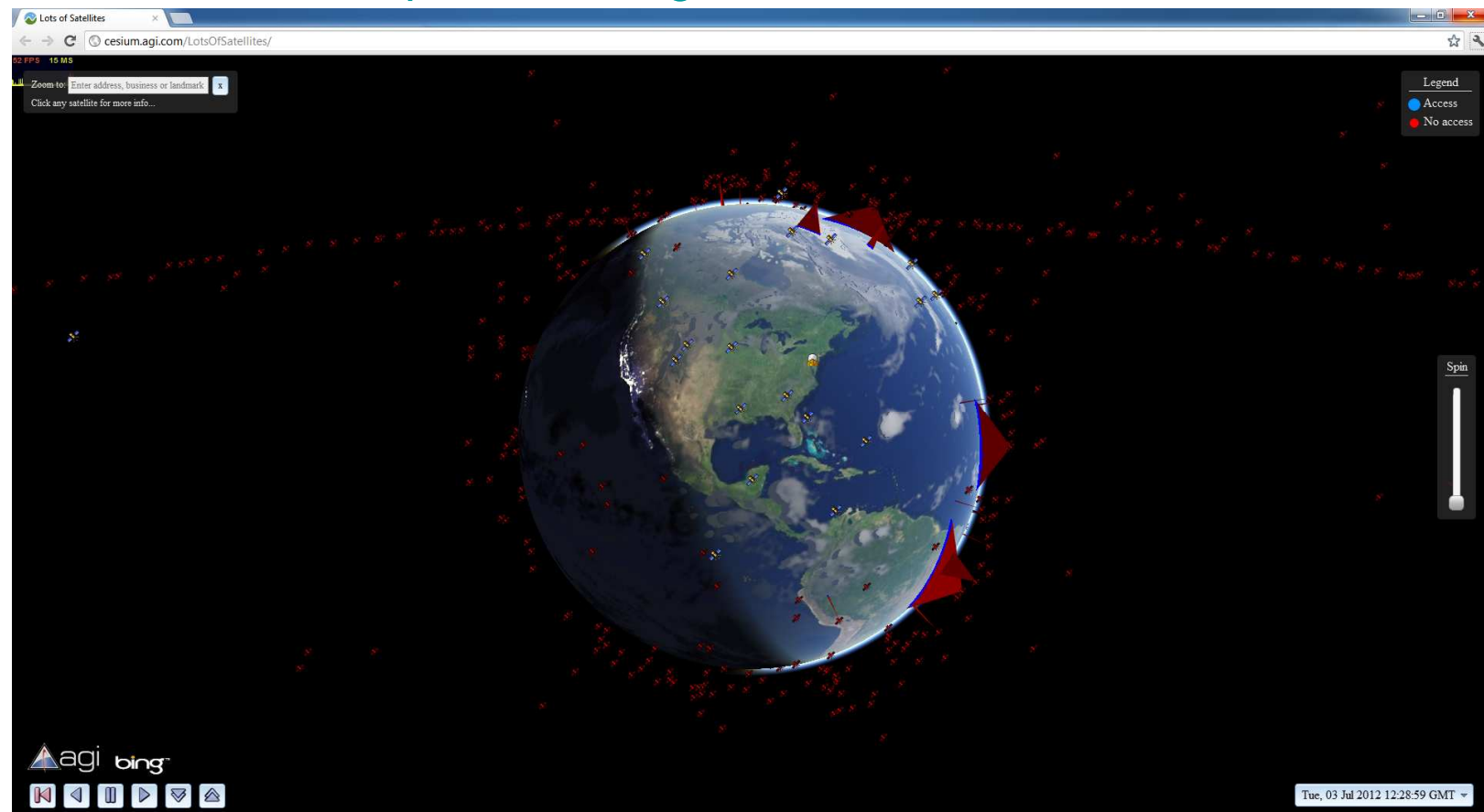
<http://cesium.agi.com/CesiumViewer/?source=Gallery/simple.czml>



# Stream based demo



<http://cesium.agi.com/LotsOfSatellites>



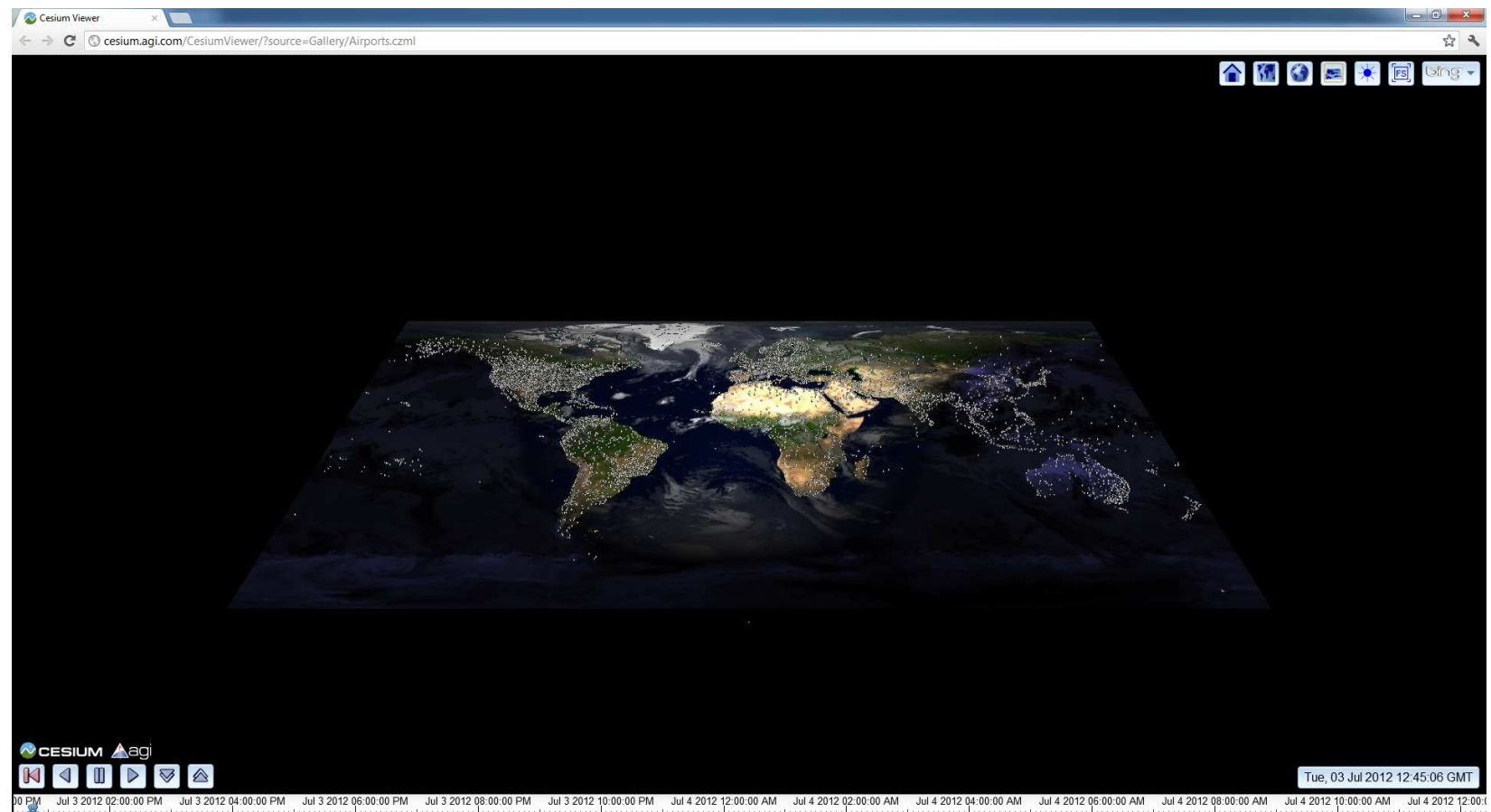
- Java and .NET APIs for writing CZML
- Open source under Apache license
- Also contains converters
  - KML, shapefiles, GeoJSON, more on the way
- Code – <http://git.io/czml-writer>



# Converted KML demo



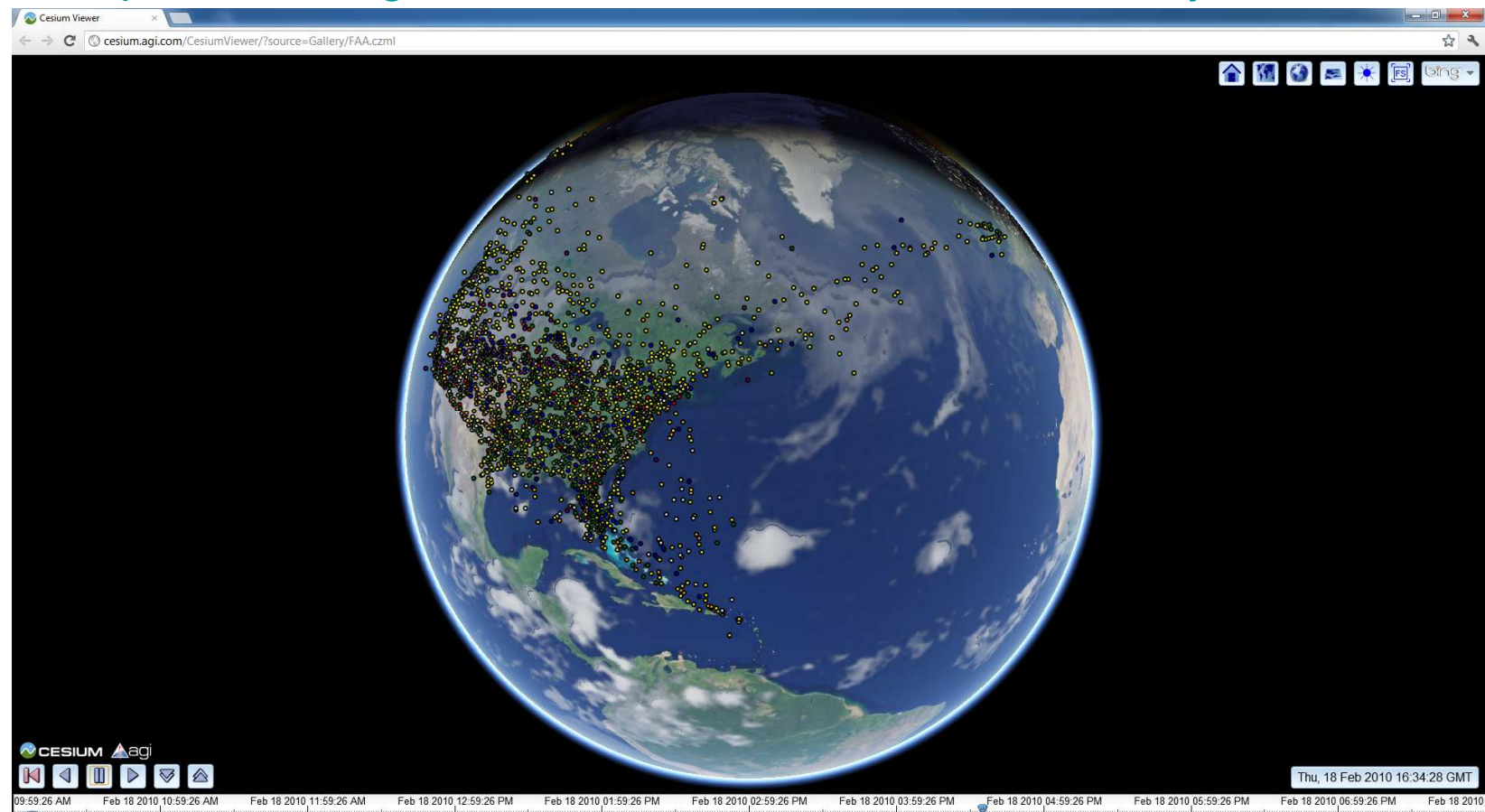
<http://cesium.agi.com/CesiumViewer/?source=Gallery/Airports.czml>



# US based air-traffic



<http://cesium.agi.com/CesiumViewer/?source=Gallery/FAA.czml>



# Enabling CZML in clients



- Reference JavaScript implementation available in Cesium
- Reference code can be used largely as-is to add support to other maps and globes
- If you're interested, let us know; we want to help.

# A call for collaboration



- CZML specification is a work in progress
  - Latest specification: <http://git.io/czml>
  - Greatly appreciate feedback
  - Want the community to help shape the standard
- Cesium is under development
  - Always looking for good developers, artists, designers, etc...
  - Lots of low hanging fruit for new contributors
- In short, we want you to come play with us and help build our community

# Important links



- Cesium project – <http://git.io/cesium>
- czml-writer project – <http://git.io/czml-writer>
- Cesium wiki – <http://git.io/cesium-wiki>
- CZML specification – <http://git.io/czml>
- Latest demos – <http://cesium.agi.com>
- Google Groups
  - <https://groups.google.com/forum/#!forum/cesium-dev>
  - <https://groups.google.com/forum/#!forum/cesium-announce>

# Questions?