Hosting legacy Airport Layout Plans and airport imageries in Cloud

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The FAA’s Airports GIS program is a multiyear initiative designed for geospatial data collection for use in airport planning and engineering. The data is used to improve safety by providing different Lines of Business in FAA, airports, pilots, and industry stakeholders among others, with better, more accurate data for making decisions. It uses industry standard technology to provide an authoritative source of quality data for U. S. airports. It provides airport sponsors and consultants with the data standard and guidance to collect data for different airport projects.

Benefits of Airports GIS
The primary benefits that Airports GIS provides are as follows.
- Reduce costs to Airports, Air carriers, and FAA
- Improve safety and efficiency
- Produce a better management strategy
- Produce a single database for Airport information
- Help share data among stakeholders and aviation partners
- Support New Initiatives – Next Generation of Air Transportation (NextGen)

Airport Layout Plan and Cloud
Airports GIS hosts a few application modules. It allows authorized Airports GIS users to submit changes to airport data. One of these modules in Airports GIS is electronic Airport Layout Plan (eALP). This application helps airports create their digital Airport Layout Plans. The layout view capability in this module is provided by ESRI’s ArcGIS server. The initial phase of testing a few eALPs across the nation as a pilot program initiative is over and valuable lessons are learned from this activity. We expect the improved version of this application will go to production in next few months. It will take several years before most or all airports in USA have their digital Airport Layout Plans. During this transition period we are storing legacy Airport Layout Plans in Cloud. These Layout Plans are basically in pdf form. Plans to catalogue these Layout Plans and provide access to users are being implemented. Since these documents are relatively small in size, thousands of such documents can be stored in the Cloud at very low cost. At present, airport sponsors cannot upload these documents. We are aware of this and trying to resolve this soon.

Survey Module and Cloud
Airports GIS also hosts a Survey module. As part of this module requirement, we collect airport imagery for almost every submitted airport project to Airports GIS. We have already archived some of these ortho images in Cloud. This gives the ability to users to take advantage of ESRI’s ArcGIS viewer, available in Cloud, to analyze and manage these imageries. These ortho images are large in size. In future, we will receive a lot more ortho images because the number of airports who submit this data is growing every month, and the size of each ortho image is also growing. Hence, it needs special care to organize and access these imageries. Once completed, this will have significant impact on airport planning and budgeting.
Imagery Resolution
We are trying to improve the resolution of the imageries by changing the way the imageries are uploaded to the Cloud. We are in the process of uploading both caches and tiles of these imageries to adapt to a different architecture and hoping to provide better resolutions to these imageries. Also, we are in the process of contacting airports for some missing imageries. We hope to upload a few hundred imageries to Cloud by the end of this financial year and reach our target of one thousand imageries in the Cloud. We are also planning to collect WAAS (Wide Area Augmentation System) imageries from other Lines of Business and upload them to the Cloud as well. In future, Airports GIS Cloud will be a good repository of airport imageries which can leverage ESRI ArcGIS, more importantly the latest version of ArcGIS which may not be available from other modules in Airports GIS.