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Texas DOT's Cloud Solution to Reporting Highway Conditions

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In the winter of 2011 Texas was hit with the worst ice and snow weather events that they had seen in many years. The DOT is responsible for providing information concerning the conditions of our 80,000 centerline miles of highways. Our legacy system was based on ESRI ArcIMS technology and a single server approaching 7 years old. The system was not able to support the demand of the public. The Technology Services Division was tasked with finding a solution to provide a system that could sustain the impact of thousands of users and remain in a stable usable state throughout the weather events.

The solution is hosting the redesigned ArcGIS server/BING application in the AmazonEC2 Cloud. This solution offers the ability to host the application and then add additional computing resources as the demand increases. As the demand declines, the additional resources decline also. The pricing model is based on the actual usage, similar to the pricing model an electric company uses, of the computing resource.

The AmazonEC2 cloud service is unique in this case since they are partnered with Esri, the GIS software vendor currently used by TxDOT. Esri offers preconfigured ArcGIS for Server software in the Amazon Cloud that is ready to use in minutes. Currently no other cloud provider offers this partnership or method of providing the same service. This presentation would cover the design of the application, the testing that was done to prove the stability/scalability of the Amazon Cloud, the use of the system and the costs involved to host the application.