Persistent

AWS IoT Enabled Smart Wildlife Drinking Water Station

Sri Lanka's Department of Wildlife wanted to improve the health of wildlife in Kumana National Park which is located in a drought-prone area. In order to reduce mortality during dry periods, they had to send staff twenty miles into the forest to check water levels and commission expensive tankers to replenish the ponds. Persistent designed and deployed a cellular connected, solar powered ground water pump system that could be managed remotely from an AWS IoT based application, eliminating need for on site water level inspections and tanker deliveries deep within the park.

Challenges and Solutions

Requirements

\   Securely connect and manage pump twenty miles away from park office

\   Handling and storing time series output of pond monitoring system and pump

\   Notification of park staff

\   Running high availability managed service on behalf of the client

AWS Based Solution

\   Cellular IoT Gateway connecting to AWS IoT Core. RDS for storing gateway, sensor and actuator "metadata"

\   AWS Kinesis, S3 and Dynamo DB for message brokering and storing

\   Email notifications leveraging AWS SES

\   High availability foundation implemented using EC2 via Elastic Beanstalk, CloudWatch

Benefits

Increased Animal Health

Ensures that animals have sufficient drinking water within the park

Reduced Energy & Water Expenses

Reduces need for costly water tankers to resupply drinking water ponds

Increased Staff Productivity

No need to travel deep into the park to manually survey water levels onsite

About Persistent

Persistent Systems (BSE & NSE: PERSISTENT) builds software that drives our customers' business; enterprises and software product companies with software at the core of their digital transformation.
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