

# Leading Global Energy Solutions Provider Migrates Element Management System to Next Generation In Record Time with Dhyan

## New NetMan<sup>®</sup>-based EMS Managing Millions of Smart Metering Devices

- CUSTOMER** > A major global player in the energy industry with a purpose-built communications platform that enables utilities and cities to securely and reliably deploy any application, on one powerful network.
- PRODUCT** > The Customer's Element Management System, developed by Dhyan and based on Dhyan's SmartMan<sup>®</sup> and NetMan<sup>®</sup>, provides a single platform for managing both AMI and WAN networks, simplifies smart grid communications for utilities, and enables economic, reliable, and real-time network management.
- SITUATION** > Dhyan had previously developed the management system for Customer's legacy devices, but they needed a management system for their next generation devices, including protocol revisions such as support for CoAP/CoMI/YANG, as well as additional capabilities. However, the new devices were still in development which meant that EMS development had to happen alongside device development so that the management solution was ready to go at the same time as the new devices.
- > One of Customer's southeast Asian customers was rapidly increasing the number of meters deployed, at the rate of 130K meters per month. At the time, Customer's element management system was managing 1M devices, and they saw an urgent need to scale up to 2.5M devices in the next 6 months, 5 million in the subsequent months, and ultimately rising to 10M devices in the near future.
- CHALLENGES** > As the devices themselves were not available, simulators mimicking millions of devices had to be developed in a very short period of time before EMS development could even start. And because device development was ongoing, there was the risk that APIs would change, throwing up integration issues.

**BY THE  
NUMBERS**

5 months

Development  
time

Millions

Devices  
managed

Billions

Number of  
KPIs processed

**DHYAN'S  
VALUE ADD**

- Dhyan's deep experience in building similar solutions for this and other customers ensured minimal risk for Customer. In addition, Dhyan's experience with the YANG data modeling language accelerated development and reduced time-to-market.
- Testing scalability for millions of actual devices is nearly impossible, so Customer used the Dhyan simulators to expedite development and cover a larger scope of device functionality without having to invest in extensive scale testing infrastructure.
- SmartMan was built to be scalable and its architecture, based on Dhyan NetMan, was a key factor in achieving the desired scalability.



Over the years, we have deployed our EMS application at many different types of utility customers worldwide, from smaller utilities managing a few thousand devices to very large utilities managing almost a million nodes. The EMS has performed remarkably well in all situations because of the underlying technology. Dhyan's SmartMan has exceeded our expectations of being robust, secure, scalable, and easy to use."

Engineering Director, Energy Solutions Provider

**RESULTS**

- The Dhyan EMS development team delivered the required features on time and under budget by closely coordinating with Customer's device firmware team. There were minimal integration issues and expectations were exceeded. Using the management system developed by Dhyan, the Customer's device team were able to validate their device features such as firmware and configuration updates.
- Scalability tests for factors such as millions of devices managed, billions of KPIs processed, and the amount of historical device data maintained, were all conducted using the simulators developed by the Dhyan team who tuned the performance to meet or exceed specifications.

**Dhyan**

THE DEVICE MONITORING  
AND MANAGEMENT EXPERTS

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