

INFOSYS BLOCKCHAIN DEMAND RESPONSE MANAGEMENT



Overview

Demand response (DR) programs are offered by utilities to energy consumers and prosumers. The energy consumers and prosumers can enroll in these programs and get incentivized for providing flexibility in their energy consumption at the utility's request, during peak periods of demand or during under-supply.

Centralized demand response management faces challenges such as data security and privacy of participants in the DR event, handling of a large number of energy transactions and data exchange between data between disparate consumers or prosumers. In this model, deviations in energy flexibility provided by DR participants are visible towards the end of DR signal. This results in inefficient DR management.



Solution Overview

Infosys Blockchain Demand Response Management connects the grid with prosumers or consumers who have signed up to participate in the DR event. Energy data from participants is stored locally in the blockchain using digital identities. This ensures data security and privacy. Real-time energy data from the participants' smart meter is stored in blocks as transactions and replicated across nodes. Smart contracts defined at the grid level ensure that the energy demand is balanced with energy production. Smart contracts defined for prosumers or consumers monitor energy adjustments to meet the baseline. In case of significant deviations, smart contracts trigger new DR events dynamically, which results in efficient DR management.







Solution Key Benefits

- Data privacy & security and transaction immutability
- Single source of data to all stakeholders
- Smart contract helps in efficient DR programs
- Faster financial settlements



Case Study

 Client Name	 Problem Statement	 Challenges	 Benefits Delivered
US based Utilities company	The client was facing challenges with centralized demand response program and looking for options to improve the efficiency of the DR events and ensure the grid is balanced during intermittent increase in the demand	<ul style="list-style-type: none"> • Inefficient DR events • Complex reconciliations of data from disparate participants • Security and privacy issues 	<ul style="list-style-type: none"> • Data privacy & security and transaction immutability • Single source of truth to all stakeholders • Self-enforcing smart contract ensures grid is balanced by creating a new DR event in case of deviation in agreed flexibility

To know more about Infosys Blockchain Demand Response Management, please write to blockchain@infosys.com.