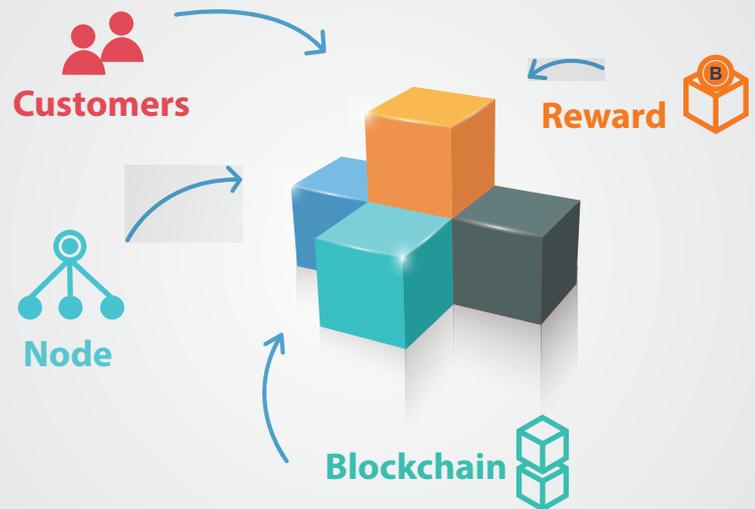


Quartz Reward Points



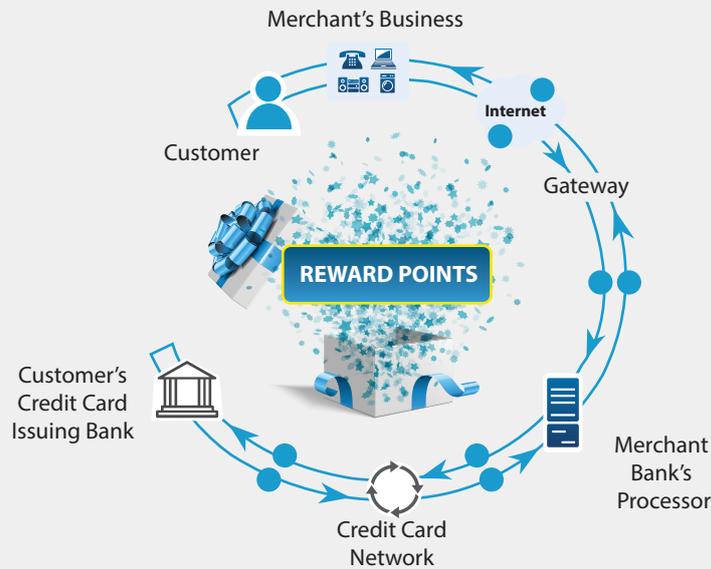
Current Process and Challenges

Reward Points are typically offered by banks to their customers for usage of credit/debit cards, as well as by large merchants/Retail chains on purchases made in their stores/portal. The primary objective of Reward points is to ensure customer loyalty and to incentivize further spends through utilization of these points. However the current Reward points management process comes with a number of inefficiencies including a basic **lack of fungibility** of reward points. A customer cannot use them for purchases at an online store or a grocery super market and is instead forced to redeem the points with the institution which may not be always be possible or meaningful for the customer.

Other challenges include - a **cumbersome** process for redemptions, **significant delays** in delivery or settlement for transactions made using Reward points. Issuers of Reward points also face challenges since each of them **need to maintain systems** to track Reward points issued to each customer/member, and also **need to deal with reconciliation issues** as a result of delayed settlement and lack of real-time availability of Reward point balances. Unused Reward points are also treated as **liabilities in the Issuer's balance sheet**, thus posing further complications.

Reward Points management on Blockchain

The Quartz Reward points solution on blockchain helps create a powerful ecosystem in which Issuers of Reward points (Banks, Merchants etc), and the Acquirer/Payment processor can operate as Nodes on the Blockchain. Each participating Issuer can maintain information pertaining to their customers/members and their **point balances on the blockchain**. The Acquirer/Payment processor can facilitate use of Reward points across a vast chain of Issuers thus **providing flexibility** to the customer in using the points. A combination of Reward Points/Funds can therefore be **accrued and redeemed seamlessly** on blockchain.



Business Benefits

- Flexibility in using the Reward points, across a vast network of Issuers/Merchants without any restrictions
- Instant Settlement of transactions using Reward point balances on blockchain
- Real time view of transactions and balances for Issuers and the Payment processor
- Elimination of reconciliation overheads for all entities in the ecosystem
- Audit Trail for a complete history of transactions
- Vastly superior customer experience as a result of fungibility, simpler operational processes while redeeming the points
- Better utilization of Reward point balances, leading to healthier balance sheets for Issuers

The Quartz Advantage

- Smart Contracts for accrual and redemption of funds and Reward Points
- Data Privacy: Quartz ensures confidentiality of data, allowing access only to authorized participants
- Quartz Gateway helps integrate existing systems to the blockchain thus facilitating the set-up of the ecosystem on blockchain
- Administration and Monitoring of the ecosystem through the Quartz Command Center.

About Tata Consultancy Services Ltd. (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organisation that has been partnering with many of the world's largest businesses in their transformation journeys for the last fifty years. TCS offers a consulting-led, Cognitive powered, integrated portfolio of IT, Business & Technology Services, and engineering. This is delivered through its unique Location Independent Agile delivery model, recognised as a benchmark of excellence in software development.

About Quartz Blockchain Solutions

Quartz Blockchain solutions comprise intelligent Smart contract development kits, and integration solutions to enable development of high quality code for different Blockchain technologies. They help integrate existing solutions easily with ecosystems / industry networks, and enable the deployment of the solution over a robust enterprise class architectural framework called the Quartz Foundation. Quartz also comprises a set of 'Designed for blockchain' business solutions across industries, which enable blockchain-driven transformation.