**Hyperledger Umbrella Products**

Blockchain Core Concepts

Hyperledger

*Hyperledger incubates and promotes a range of business blockchain technologies, including distributed ledger frameworks, smart contract engines, client libraries, graphical interfaces, utility libraries and sample applications. The Hyperledger umbrella strategy encourages the re-use of common building blocks and enables rapid innovation of Distributed Ledger Technology components.*

*Scope of this document: To explain blockchain and/or Distributed Ledger Technology thru a sequence of key terms and concept definition. We will explore how blockchain and Distributed Ledger Technology can manage your data and transactions by maintaining a single version of the ledger that all participant agree is accurate.*

*Audience for this document: This document is for Decision makers and end users who wish to gain insight into Hyperledger Products.*

Decision Makers and End Users

**Decision Maker**

What is a decision maker? A person or group of persons who choose whether or to use permissioned blockchain technology for a particular business purpose, also referred to as blockchain for enterprise.

**Do you need transaction immutability?**

**Do my transactions require high throughput (scalability)?**

**Do you trust network participants?**

**Can I integrate my Legacy System?**

**Can a shared ledger help manage transaction?**

Questions for Decision Makers considering Permissioned Blockchain

**Is Privacy important to the participants?**

**End user**

An end user is a person or group of people that uses the finished product. In a permissioned blockchain (Distributed Ledger), this can be any a person or group of persons who would like to view, change or maintain the state of the blockchain.

USER INTERFACE

**Car Information**

Create New Car Inquiry

Transfer Ownership

Car Inquiries

End Users interact with Interface for querying or altering the ledger.

User Login

End users interact with a client application to propose a transaction.

*One example of this is an automobile Industry database, interactions such as create a new car, transfer the ownership of a car, and modify the color of a car can be completed by filling a screen with data or transaction information. Services such as: given me the entire history of CAR1, or who is the current owner of CAR2, or give a list of cars currently owned by CARMAKER1 are accomplished using the interface.*

Key Terms:

Blockchain

A blockchain is a database that stores transactions. Transactions are grouped together in a block. Each block, except the first block, is linked with the previous block and in turn will be referenced(by a pointer) in the next block, forming a chain.

Genesis Block:

**TRANSACTIONS:
.**

**Hash Pointer #1 (HP1)**

BLOCK 3

**(HP2)**

**TRANSACTIONS:**

**Hash pointer #3 (HP3)**

BLOCK 2

**(HP1)**

**TRANSACTIONS:**

**Hash pointer # 2 (HP2)**

Once a block has entered the blockchain, it is ‘chiseled in granite’. This characteristic delivers the immutability of the data in the blockchain, also referred to as practically tamper-resistant data or virtually incorruptible data. This aspect is one of the main reasons for the broad interest in blockchain technology.