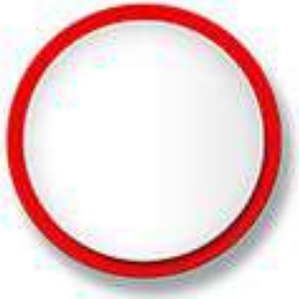
RanchiMall

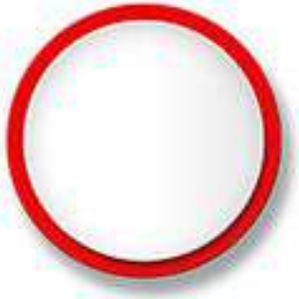
Connecting with other networks like TOR and TORRENT

Technology

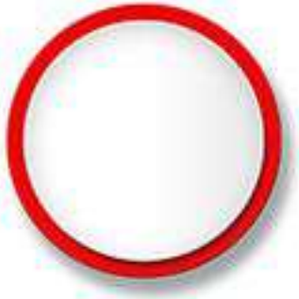


RANCHIMALL
INTRODUCTION

A network is powerful only if it can
connect with other networks.

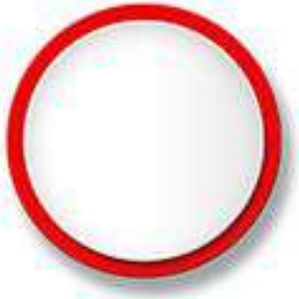


One of the big goals of blockhain design is to enable it to connect with other networks.



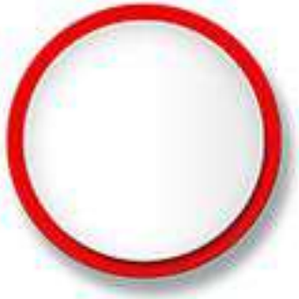
There are couple of approaches to connect a blockchain network with other networks.

One is to make a direct permanent mapping between a blockchain ID and a unique identifier in the target network ID.

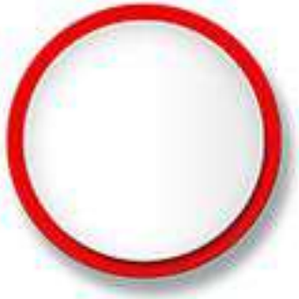


For instance, a FLO Blockchain ID can directly be mapped to The Onion Router (TOR) address.

That will ensure that someone in control of a given FLO ID can offer a hidden service on an .onion address, and blockchain users will only need to know FLO address to reach that hidden service.



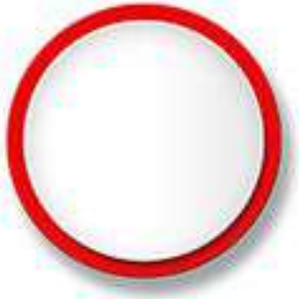
This will give a FLO address owner a safe and secured way to advertise his .onion hidden service if that connection data is available in the blockchain.



We can use this approach to create a messaging service from one FLO ID to another FLO ID using TOR network, and it will give direct routing capability between two FLO IDs.

Both FLO IDs will have to be mapped to some onion address each in the blockchain, and then TOR network will perform the task of transporting the messages.

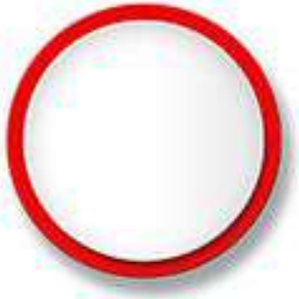
Another approach to link a blockchain network to a foreign network is linking data elements of the foreign network with the blockchain ID.



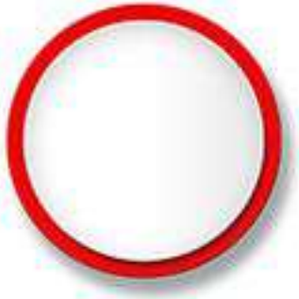
For instance, we can link multiple torrent files to given blockchain ID.

This can be achieved by storing torrent files in the FLO blockchain itself, and have an index of all such storage linked to a FLO blockchain ID.

Now when someone searches in a certain form for that blockchain ID, he can retrieve any of the torrent files.



RanchiMall has linked FLO ID to TOR network and TORRENT network as described till now.

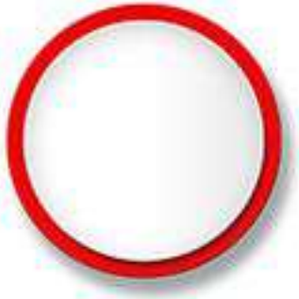


But we can use the similar strategies for linking blockchain to other networks.

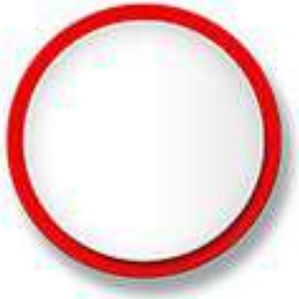
To link with SMTP networks (Email) , some gateway SMTP servers can be assigned some FLO IDs.

Then any email sent outbound to such FLO ID will be delivered to intended recipient through that SMTP gateway.

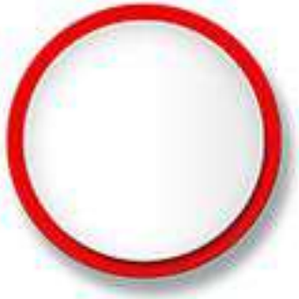
To receive an email inbound,
FLO_ID@FLO_Domain can be used, which will then delivered to FLO_ID.



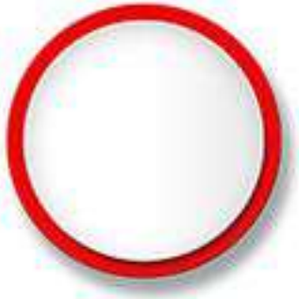
SMTP is an open network, so it is easy to link FLO Blockchain network to it.



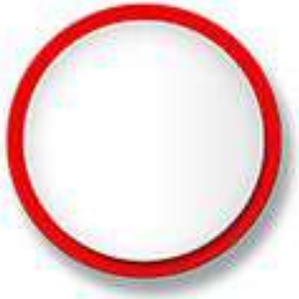
However its best to use native FLO messaging system in order to have benefits of digital signatures and encryption.



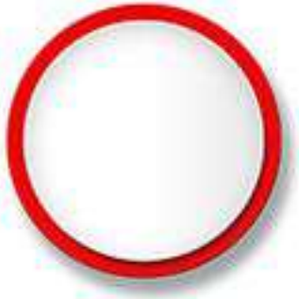
Now we will talk about what should be nature of blockchain to other network connects.



First of all the connection should look like native network for the original user.



The user should not feel she/he is going to another network.



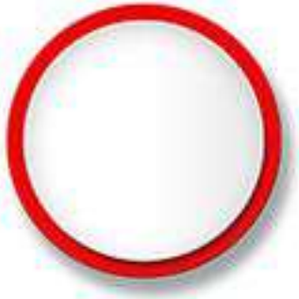
Good Network to network connections increases the usage of all networks in 2^n manner.

It means addition of one more network to the cluster will double traffic of every previous network.

This configuration is called a Reed network.

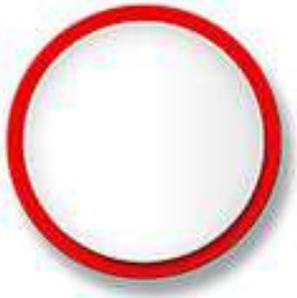
Inside just one network, if the number of users double, then the consumption in that network increases by square of the number of users.

This configuration is called Metcalfe network.



If two peer-to-peer networks are inter-connecting, then maximum gains to both networks happen when each are roughly equal size.

We have already discussed that users of both networks should feel as if they were in their native networks.

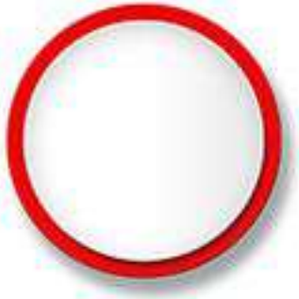


For a single peer-to-peer network in Metcalfe configuration, there are two ways to make it become a Reed network.

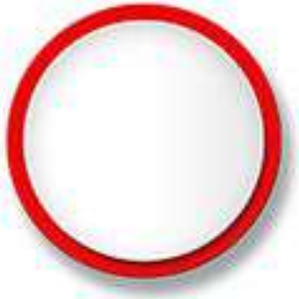
1. Creating new groups inside the same network.

2. Connecting to an equally powerful new network.

In both cases, users have to be bootstrapped because in initial days no one sees the benefits and does not participate in group creation, or engaging with foreign networks.



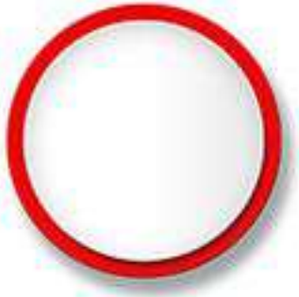
Bootstrapping can be done by having additional incentives for initial users.



When consumption grows rapidly with groups phenomenon or network-to-network connects, it is important that economic incentives are well designed to scale up network service capacity more than consumption growth.

This is only possible if cost of increasing network service capacity is lower than gains due to increasing consumption growth.

If costs increase in per unit consumption service capacity is higher than gains per unit increased consumption, then the network will collapse.



So it is very important that cost and gains are properly researched, and networks should be constructed only after that research.