LKC 白皮书

- ICO平台集中业务区块链技术应用 -

目录

概要

自 2009 年早期比特币作为一个加密货币的出现，我们已经目睹了市场对该技术在应用方面的巨大兴趣.8 年间，我们已经见证了该领域的极大增长，且已有上千个不同项目已使用了区块链技术.这种快速发展也使加密货币交易市场空前的火热，这些加密数字火币价值的增长，也刺激了区块链技术的快速传播并逐渐主流趋势。

至 2016 年以来，我们也一直致力于将区块链技术引进到柬埔寨来，为柬埔寨经济发展贡献力量。较长时间的不稳定局势，使得柬埔寨经济萧条，城市建设落后，人民收入偏低。由于民众对本国货币瑞尔的信用缺失，货币流通主要以美元为主，这一现象导致在柬埔寨生活成本过高。这次我们将会以 ICO 的形式发行柬埔寨首个加密数字货币 LKC，并搭建柬埔寨首家 ICO 平台，为柬埔寨当地及全世界优秀的企业提供全方位的 ICO 解决方案，帮助企业更加容易的获得资金，获得更快速的发展。同时全世界的人民都可以通过平台购买加密数字货币，投资自己信任的企业发行的代币，从而获得丰厚的回报。

现在我们将正式开始进行LKC代币销售工作。

LKC代币销售

"LKC"源自"锁"和"钱币"：寓意是锁定财富同时也锁定财富不断增值。

在LKC作为一个完整的项目发布之前，它将进行代币销售活动。 而这种代币销售的方式，我们将它称之为ICO(首次公开代币发行)

此次募集计划将于2017年11月20日开启，并于2018年01月05日 关闭

以下是LKC详细ICO计划：

LKC的ICO计划共分两个阶段执行：

一、代币私募销售阶段

私募销售时间	价格/元	备注说明
2017年11月20日 至 2017年12月10日	0.3	私募总量为1亿个，直至销售完毕或时间结束； 私募结束后3个工作日内进行代币发放，发放后代币锁定，2018年1月5日解除锁定。

二、ICO发行阶段

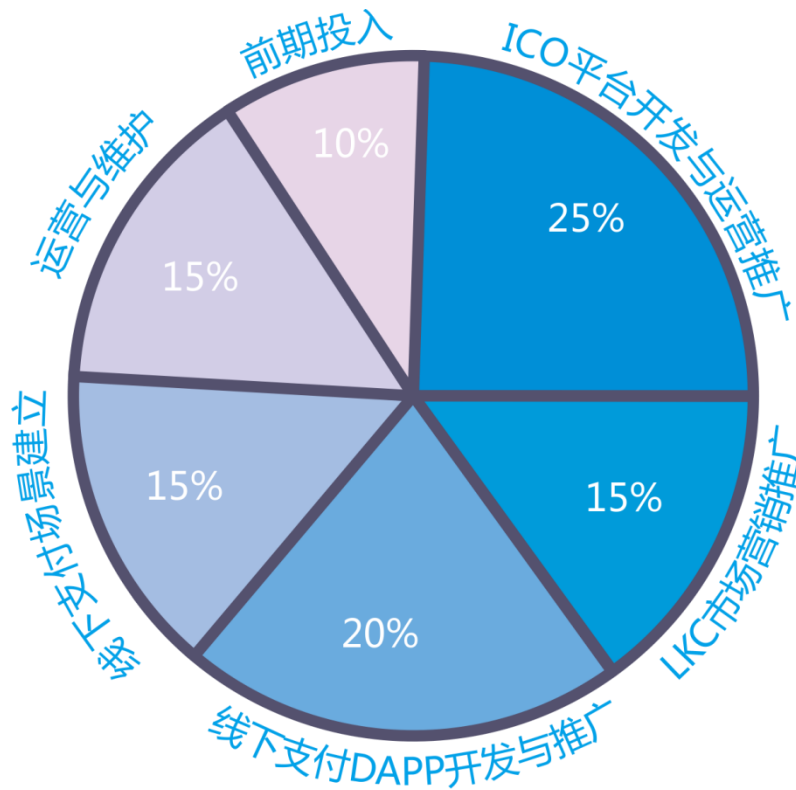| 发行时间	募集代币	兑换比例	备注说明
2017.12.20 至 2018.01.05	HSR	1个HSR 兑换 250个LKC	ICO发行总量为5000万个； ICO结束后将在2018年1月20日前后上线柬埔寨LOCKCOIN数字交易平台上市交易； 90天内对接日本数字交易平台上市交易；

募集资金分配

资金用途	比例
ICO平台开发与运营推广	25%
LKC市场营销推广	15%
线下支付DAPP开发与推广	20%
前期投入（含金融牌照和支付牌照）	15%
运营与维护	15%
线下支付场景建立	10%

前期投入 10%

ICO平台开发与运营推广 25%

运营与维护 15%

线下支付场景建立 15%

线下支付DAPP开发与推广 20%

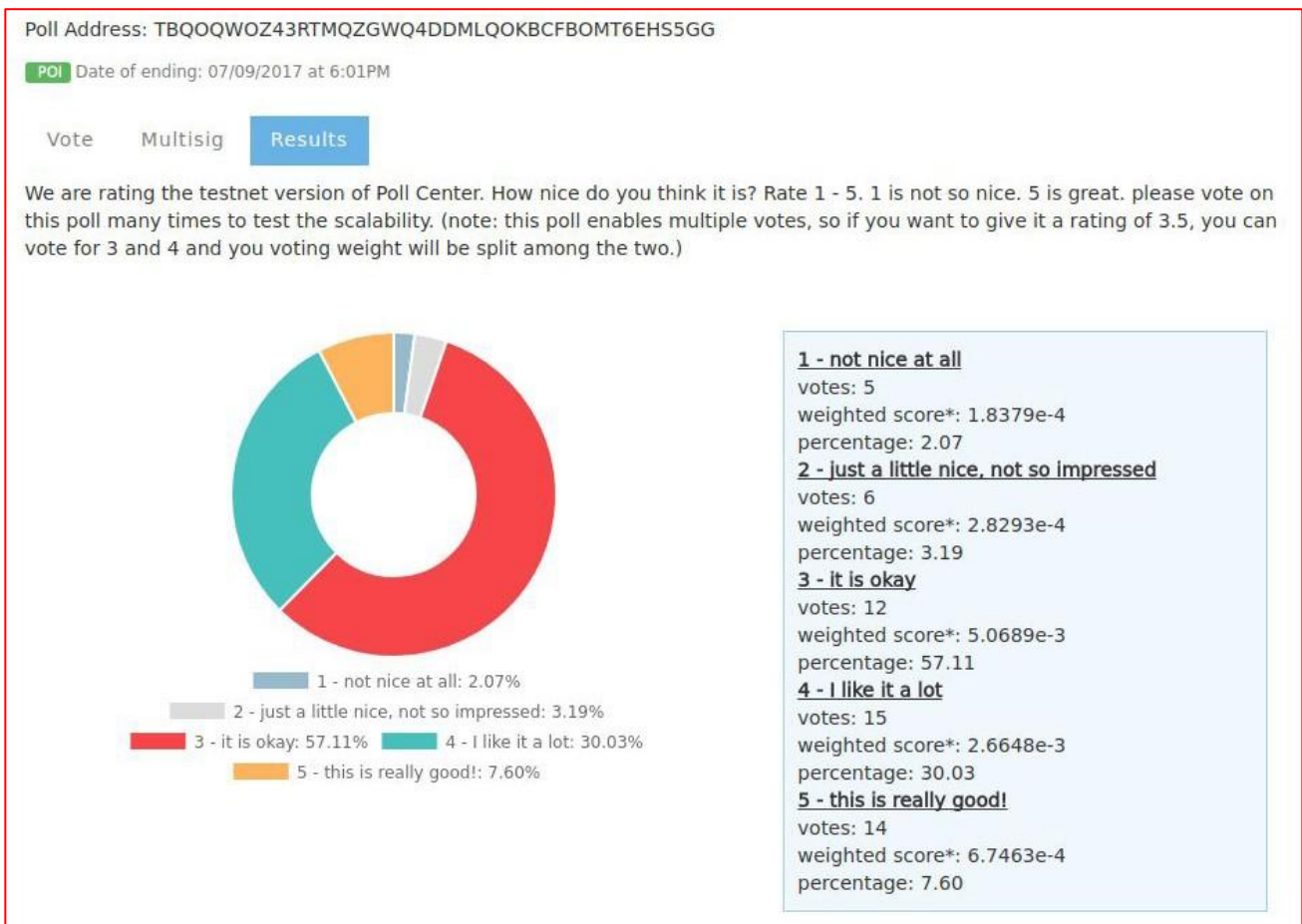LKC市场营销推广 15%

LOCKCOIN的功能和优点（以下简称LKC）

目前我们已经就LKC未来的应用与包括赌场、会所、娱乐场所等机构达成共识，确定了用户可以使用LKC在特定场所消费。同时LKC代币也会用于柬埔寨其它需要进行ICO的企业或组织代币发行的购买。LKC团队可以为这些公司提供一个完整的ICO生态系统，通过ICO募集LKC代币，从而获得资金，当然如果用户想要参与ICO项目，必须先拥有LKC代币。我们将在LKC私募结束后，以最快的速度扩大LKC在柬埔寨乃至全世界的应用场景，让更多优质的企业使用LKC进行ICO，使得LKC代币获得更多人的认可，促使价值不断提升。

社区投票

虽然所有的ICO项目都将由柬埔寨经济金融部门、项目风险控制委员会以及ICO项目委员会进行联合审查筛选，但为了更彻底的杜绝个人因素对项目的判断，在这种情况下，将把审查合格的项目，在社区投票上公布由LKC持有人进行投票，决定该项目是否能够在我们ICO平台进行ICO。

LKC代币持有者在每次社区投票中，投票都会消耗一定的LKC代币，这些消耗的代币都将做为对票选最高的优质项目的投资，并获得该项目代币回馈。

Poll Address: TBQOQWOZ43RTMQZGWQ4DDMLQOKBCFBOMT6EHS5GG

POI Date of ending: 07/09/2017 at 6:01PM

Vote   Multisig   Results

We are rating the testnet version of Poll Center. How nice do you think it is? Rate 1 - 5. 1 is not so nice. 5 is great. please vote on this poll many times to test the scalability. (note: this poll enables multiple votes, so if you want to give it a rating of 3.5, you can vote for 3 and 4 and you voting weight will be split among the two.)

1 - not nice at all: 2.07%
2 - just a little nice, not so impressed: 3.19%
3 - it is okay: 57.11%   4 - I like it a lot: 30.03%
5 - this is really good!: 7.60%

1 - not nice at all
votes: 5
weighted score*: 1.8379e-4
percentage: 2.07
2 - just a little nice, not so impressed
votes: 6
weighted score*: 2.8293e-4
percentage: 3.19
3 - it is okay
votes: 12
weighted score*: 5.0689e-3
percentage: 57.11
4 - I like it a lot
votes: 15
weighted score*: 2.6648e-3
percentage: 30.03
5 - this is really good!
votes: 14
weighted score*: 6.7463e-4
percentage: 7.60

回购LKC代币

LKC运营的一部分收入也将被分配用于在数字货币交易市场上不断的回购LKC代币，以保持LKC代币的高保值率。 这些收入包括：

ICO咨询和服务费。

LKC核心转换费。

LKC私募预售将采用邀请方式

被邀请的私募VIP的特权，LKC代币持有人也将不时被邀请投资未来优质ICO项目私募阶段，这些项目只有被邀请的参与者才能参与，而不是向公众开放。

预算分配

从LKC出售筹集的资金应分配如下：

开发LOCKCOIN ICO代币销售平台。

加密密码代币的开发。

向LOCKCOIN数字交易平台添加多语言用户界面和客户支持。

LOCKCOIN交易平台其他分站开发。

LKC线下手机支付体系开发。

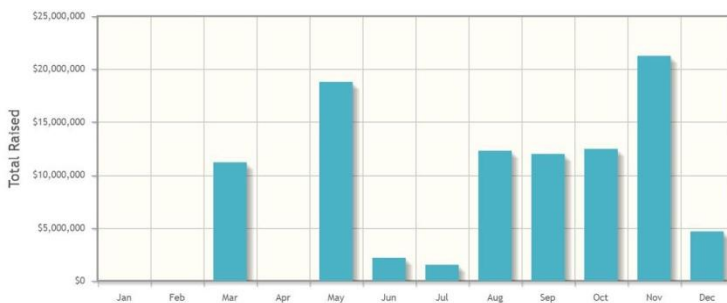LKC线下支付餐饮支付场景试点建立及应用推广。

ICO市场与行业分析

2017年6月，ICO募集资金总额超过风险投资公司在创业前12个月内募集资金的数量。

自2017年4月起，ICO市场每月都在快速增长100%以上，7月份就推出30个以上的ICO。

Cryptocurrency ICO Stats 2016 — Year: 2016

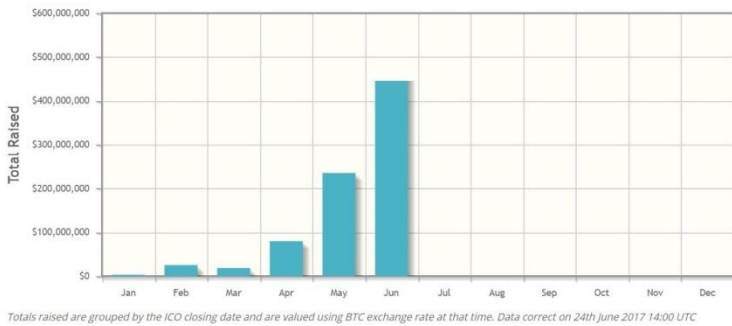Total Raised: $96,389,917
Total Number of ICOs: 46

Top Ten ICOs of 2016

Position	Project	Total Raised
1	Waves	$16,436,095
2	Iconomi	$10,576,227
3	Golem	$8,596,000
4	SingularDTV	$7,500,000
5	Lisk	$5,700,000
6	Digix DAO	$5,500,000
7	FirstBlood	$5,500,000
8	Synereo	$4,700,000
9	Decent	$4,178,357
10	Antshares	$3,608,378

Note: Figures do not include "The DAO" that raised $168M but was refunded after the smart contract was hacked.
Totals raised are grouped by the ICO closing date and are valued using BTC exchange rate at that time. Data correct on 24th june 2017 14:00 UTC
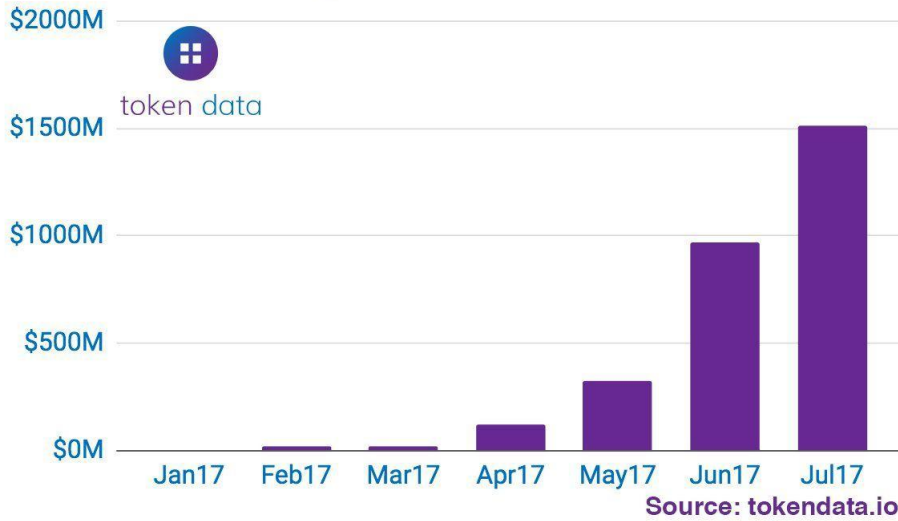
Cryptocurrency ICO Stats 2017

Year: 2017 ▼

Total Raised: $888,251,174

Total Number of ICOs: 78

Top Ten ICOs of 2017

Position	Project	Total Raised
1	Bancor	$153,000,000
2	Status	$90,000,000
3	TenX	$64,000,000
4	MobileGO	$53,069,235
5	Sonm	$42,000,000
6	Aeternity	$36,960,594
7	Basic Attention Token	$35,000,000
8	Civic	$33,000,000
9	Storj	$29,222,856
10	Monaco	$26,557,824

Totals raised are grouped by the ICO closing date and are valued using BTC exchange rate at that time. Data correct on 24th June 2017 14:00 UTC

Total USD Raised through ICO's in 2017

token data

Source: tokendata.io

资源：

https://www.coinschedule.com/stats.php

11月份，加密代币的总市值在短短9个月内从近200亿美元上涨至1116亿美元。 与

Global Charts

Total Market Capitalization

Zoom 1d 7d 1m 3m 1y YTD ALL

From Dec 24, 2015 To Jul 11, 2017
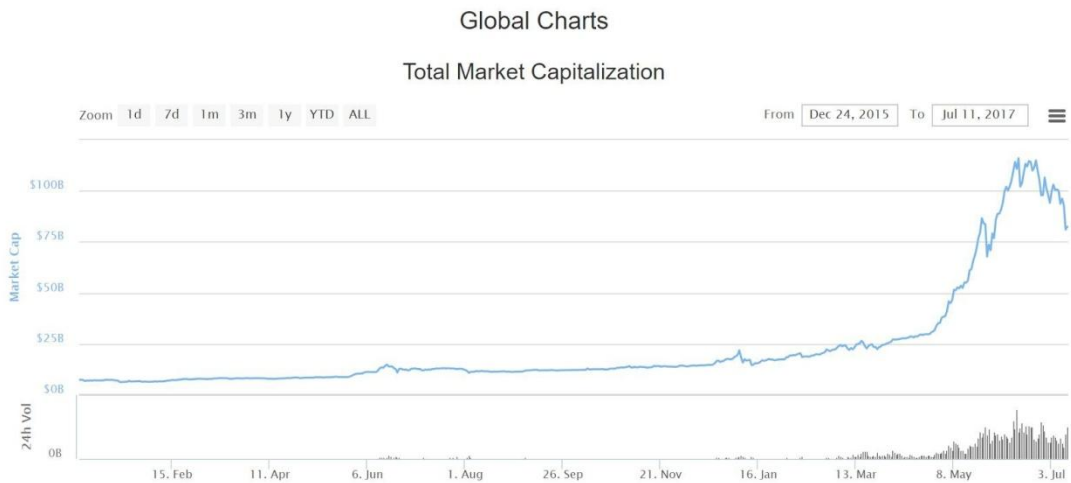
此相比，自从Bitcoin推出以来，市场8年来市值达到1150亿美元。

到2018年底，我们预计总市值将达到1万亿美元，当时ICO市场将增长到超过50亿美元。

LKC的目标是在2018年瞄准1亿美元，其中有20个ICO项目。

LKCICO解决方案

LKC不仅仅是一个跨链控制器和路由器。 它也是LKC生态系统中存在的未来ICO的渠道。作为项目的一部分，现在已经有一个企业委托LKC进行ICO规划，LKC将为该企业提供咨询，专业知识和解决方案，以支持他们自己的ICO，并在其业务实践中实施块链技术，同时作为一站式解决方案。

这些企业的ICO将使用LKC的现有基础设施，利用现有的独立的Ethereum，Bitcoin和NEM独立块来提高数字货币的加密性，而LKC建立集成系统以锁定。

我们将提供的初始服务包括：

使用区块链技术的业务规划和服务设计，特别是代币。

将实体资产转换为数字资产。

对ICO和标准化的法律支持。

创建多语言白皮书。

代币发行和建立代币销售平台

为代币的交易对接交易所。

开发基于以太坊的智能合约。

智能合同开发。

将来，当LKCICO平台完成后，我们将把以下服务纳入这些ICO公司和新的ICO，并提供以下增值服务：

与LKC核心集成

与LKC 区块网络集成，以连接和保护私有块和公有块。

ICO平台即将ICO的项目

LKC代替未来的分布式应用程序，专注于现有的主流业务，以推出其ICO。 这种ICO的方法不仅使ICO具有合法性，而且还引入了主流业务，利用成本效益，数字加密安全和安全的区块链技术来改善业务并提高其效率。

从LKC本身作为第一个ICO，我们将在ICO平台上线之后立即安排以下ICO。

1、柬埔寨市政科技

2、

以上是来自柬埔寨政府的成功企业，但LKC解决方案并不仅限于柬埔寨的企业。 我们已经开始邀请全球企业参与ICO。

每个ICO的细节应该被披露和披露，因为更多的ICO项目将被公布，迄今为止的反响是巨大的。

什么是LKC

LKC旨在解决将LOCKCOIN与现有业务链接到公有块链的问题。 LKC正准备将将NEM，Ethereum和Bitcoin公共网络与企业将要使用的私有块链挂钩。 这个想法是桥接这些企业和加密存储所有者，为避免所有者花费大量资金，同时企业也可以立即扩大市场，销售自己的产品和服务，并继续开发其主流的解决方案来满足主流用户需求。

此外，这种共生关系也使得密码和主流经济体的双方共同合作，促进了密码经济的增长进入主流，反之亦然，从而有助于广泛接受LKC加密货币。

LKC是由柬埔寨经济金融部实施的一个项目，并发行ICO代币。 该项目将使中心化公司能够利用区块链技术，并为将来能够面对分布式架构到来做好准备。
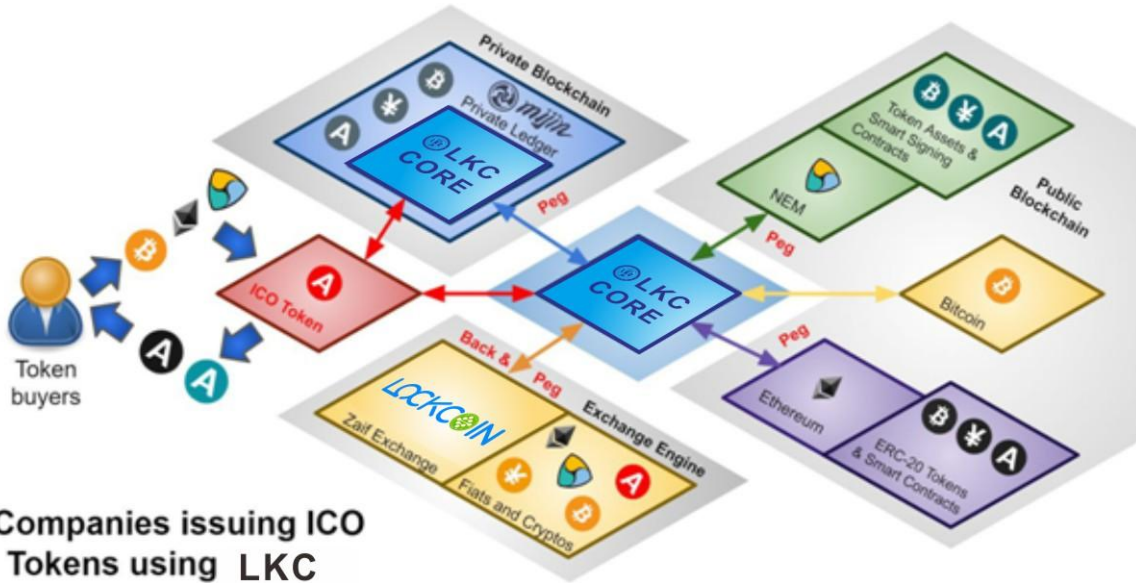
Companies issuing ICO
Tokens using LKC

不管采用什么协议，无论是Bitcoin，Ethereum还是NEM协议，企业都可以根据自己的要求选择合适的技术。 此外，LKC使之前已经开始使用任何协议的组织仍然可以利用其他服务，并将其覆盖范围扩展到由LKC提供的其他生态系统。 使用LKC平台的这个强大的实用程序与LOCKCOIN交易所结合使用，我们将提供从未有过代币发行融资的整体企业级解决方案。

LKC允许企业使用强大的NEM协议将其组织重建和货币化为区块上的私有代币经济，以及利用Ethereum强大的智能合约开始构建分散式应用程序的能力。 通过利用LKC部署和实施区块链将比以往任何时候都更加容易和快速，并为企业带来更广泛的应用。

使用mijin引擎的NEM协议不仅有助于使用它的组织的业务，而且还提供了将交易中使用的现有货币价值（即平价货币，主要加密货币等）与NEM生态系统和Ethereum的桥接分散应用。 通过整合这些流程，组织可以开始实施块链以及现有的合规和准则，而不会影响或破坏其当前的业务实践。 客户现在可以利用他们喜欢的货币。

强大的私有块式解决方案，LKC将成为分布式和中心化之间的枢纽。 通过将内部私有链和外部公有链分类帐之间的令牌挂钩，企业可以构建高吞吐量的区块交易记录。 这不仅允许组织从区块链中获得巨大的好处，还可以整合这些单位内的资源和优势。

LKCICO平台与LOCKCOIN数据交易所一道，由柬埔寨的监管机构批准，LKC提供无与伦比的服务，允许一个加密（例如Bitcoin）流入各种网络并且处理好像是在该网络中的硬币一样。 它本质上意味着来自另一个区块链的一个加密货币可以在NEM块链中作为资产来处理，并且该资产由LOCKCOIN平台支持作为KKC交易区的计价单位；也可以在LOCKCOIN交易所中进行交易，就像它是NEM或Ethereum资产。

另外，相同的加密机制也可以流入私有链的金融网络，进行企业服务，并在该生态系统中成为一种加密的货币。 换句话说，从本区块之外的平行支持和加密缓存支持的令牌可以在NEM和Ethereum之间进行交易和保存。 例如，可以在NEM或Ethereum块链中实际互换比特币和美元，甚至可以在上述情况下没有交易费用。 LKC在其服务的网络中带来硬币的交叉互换性。

通过在NEM，Ethereum和mijin私有块链中绑定令牌，LKC解决方案成为中心化业务和分布式块链之间的实用"催化剂"。 此外，该产品还有助于Bitcoin，NEM和Ethereum的整个块链生态系统的发展。

总而言之，LKC解决方案提供以下内容：

1. NEM与Ethereum块链之间的混合代币发行。

2. ICO解决方案和支持使用上述。

3. NEM和Ethereum（BTC，ETH和XEM）上的加密标记代币

4. 内部代币分类帐的高吞吐量专用块链。

5. 加密交换LOCKCOIN保证令牌列表并确保挂钩令牌。

LKC目前的战略是强调将集中式业务集中起来，通过分散化的要素加强这些生态系统，然后技术成熟后，将其升级为更多的分散式业务模式。 因此，我们现在的政策是确保在科技成熟之前，我们变得更加分散化，确保我们"尽可能稳定，不可篡改，便于审计"。 技术部认识到未来将处于分散化的环境中，因此能够带来丰富的经验，帮助形成主流业务采用和拥抱区块链技术。

通过使用私有和公有块链的这种解决方案，LKC作为核心进行集成和催化。 我们认为，LKC可以通过将更多的资产从主流带入区块状空间，为比特币，NEM和Ethereum等更大的区块链生态系统的发展做出贡献。

LKC核心

在我们的项目描述中，我们提到了LKC CORE和LKC HUB。 在这里，我们将定义LKC CORE。 LKC CORE是我们LKC平台最重要的部分。 LKC CORE将NEM，Bitcoin和Ethereum块链之间的标记作为Tech Bureau的独立服务进行控制。 它将加密货币中的价值转换为固定标记，总体积受到控制。

LKC CORE将密码货币或令牌的传入转移到LKC主帐户中，并将最终的目标详细信息嵌入其中。 然后在LKC主帐户中锁定或刻录该金额。 同时，它也解锁或发出相应的块链接上的等效的加代币或令牌，并将它们发送到他们的最终目的地帐户。
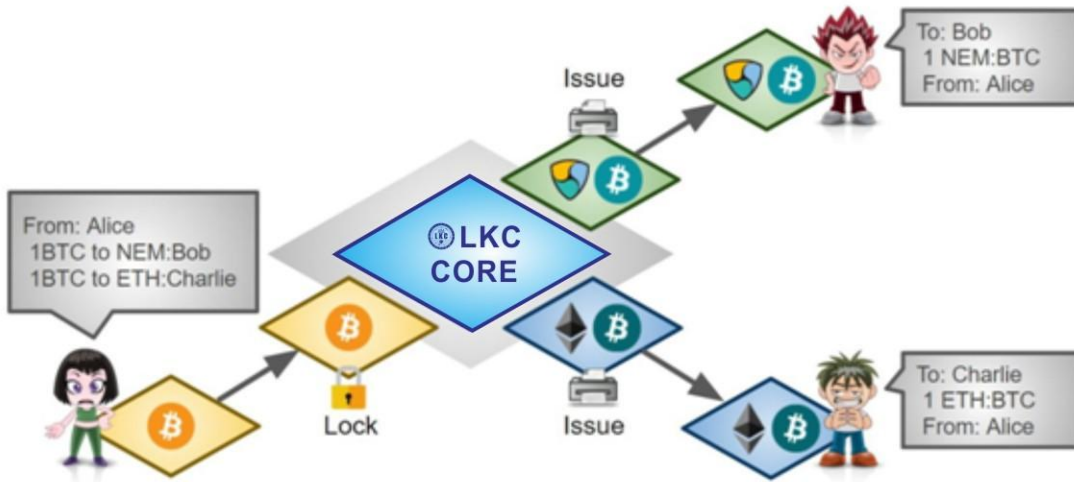
LKC CORE =转换网络

　　LKC CORE由一个控制应用程序，一个oracle应用程序和2个建立在9个云服务器机器上的独立块链接网络组成，全球分布式实现零停机令牌转换服务。
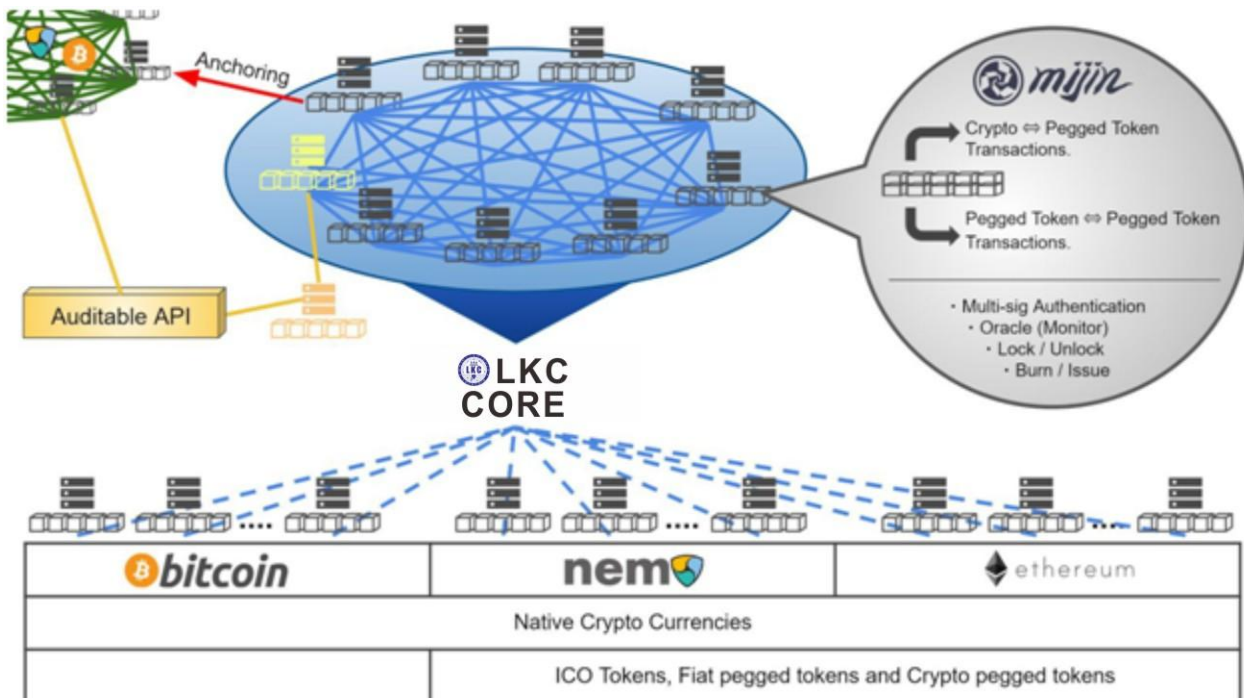
　　LKC CORE是一个隐藏和专用网络，除了一个可审核的API节点。 9个节点将完全从公众隐藏，并且作为独立于公共块链的转换网络工作。

零停机LKC CORE

　　在4个云端供应商经营的9个地区内将建有9台服务器，以实现零停机服务。 目前我们正在计划每个节点有8GB RAM和8个核心CPU的50 tx / s容量（432万tx /天）。 到目前为止，我们已经与客户在过去18个月内建立了数十台零停机分类账，并且预计LKC

CORE将不会有停机时间。 上述最大吞吐量仅用于内部分类帐，公共块链之间的令牌转换的性能取决于每个块链的限制。

Oracle（监视器）

每个服务器作为一个oracle来观察Bitcoin，NEM和Ethereum节点的传入事务。oracle分析了授权任何外发交易的每个转换的置信水平和确认次数。

Multi-sig认证器

每个服务器都作为一个多重签署者运行，以便在转换时签署所有出站的加密或令牌交易。 LKC将在用作签署者的9个节点中与X达成共识。

LKC控制器

LKC控制器由9个节点组成，可以控制多个块链中的固定标记的总体积。 LKC控制器的功能包括：

锁定和解锁加密货币。

发行和回购挂钩代币。

可审计API

其中一个重要节点将被复制并作为公开审核的API公开。 该特殊节点不会对私有块链网络的安全性产生任何重大影响，无权启动，授权或确认交易，从而避免任何未经授权的请求或确认。

定期块的哈金分类帐也将锚定到NEM和/或比特币块，以证明非操纵。

块的主要创新之一是其可审计性，并且直接导致用户信任分类账历史的能力。 主要批评经常指出，获得许可的链条是，他们可以容易地被篡改，改变或编辑，使其分类帐不可信。 通过将LKC的块头锚定到比特币和NEM公共链，可以进行全面透明的审核，允许用户知道LKC分类帐没有被妥协，直到攻击者不得不放松和不适当的NEM和比特币公共连锁店已经完成了他们的任务。
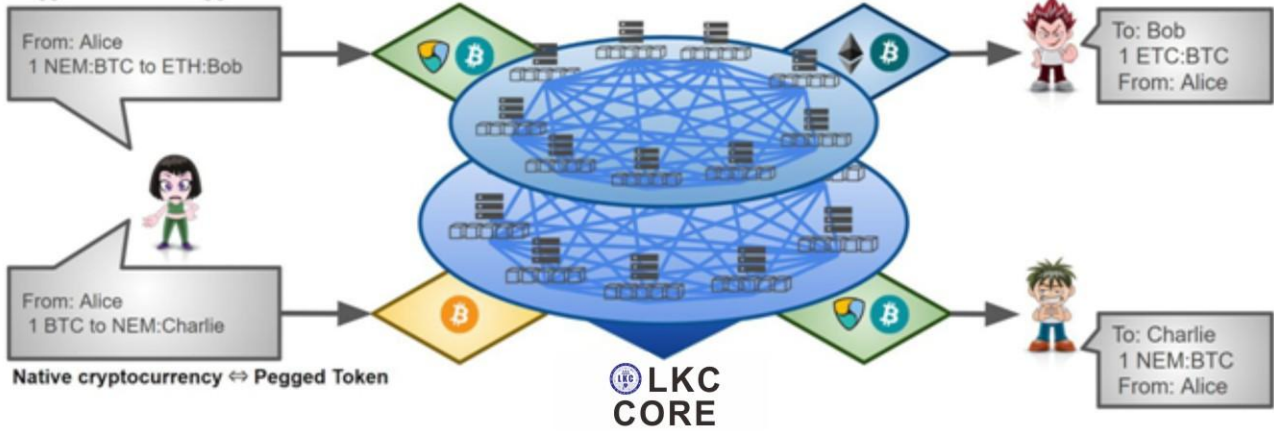
双层分类帐

如上所述，LKC CORE应该是9台服务器运行2个mijin网络。

第一个分类帐专用于本地加密货币和固定标记之间的转换。 第二个是用于钉住代币的转换。

本机密码⇔Pegged令牌

挂接令牌⇔Pegged令牌

集中化的优势

在系统故障的最糟糕的情况下，固定标记的总量可能会失去平衡。 双层分类帐将最大限度地减少失败导致不一致的风险。 对于涉及本机加密货币的转换，无法回滚公开的块链。 但是我们可以停止LKC CORE作为断路器的运行。 然后，我们可以对差异进行调节，并相应调整余额。
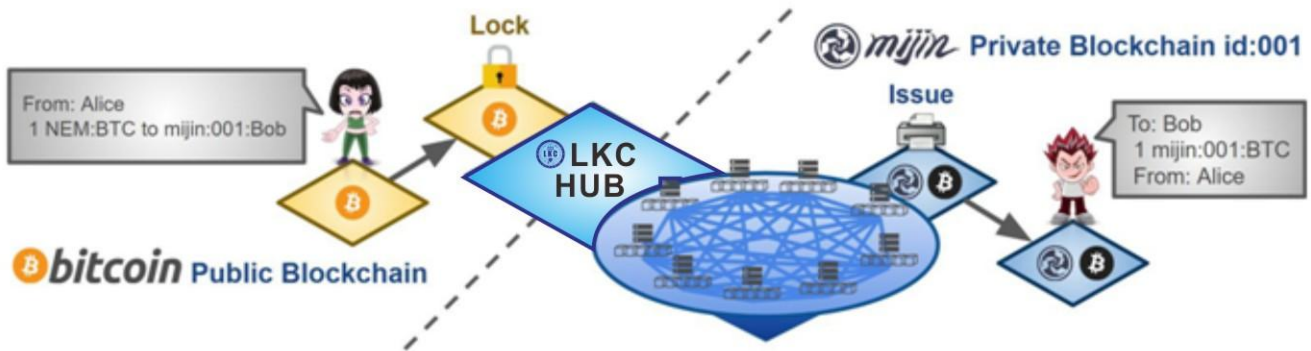
如果一个面向硬盘的公共块，作为集中式服务，像现在的密码交换一样，LKC可以停止转换服务，并决定采用哪个分支作为合法链。 根据业务规则，我们也可以采用和接受两个叉作为2个独立的块链。

这些事件在技术上难以分散应用处理。LKC CORE作为一个集中和独立的服务，将优先考虑业务和用户的利益和经验。

LKC HUB

LKC HUB是用于控制主公有块链帐户和内部私有分类帐之间的令牌余额的金属私有块链的持牌人的软件。

LKC HUB可以作为任何mijin私有块链网络的一部分安装，作为由使用它的业务控制的独立服务。 与LOCKCOIN提供服务的LKC CORE相比，LKC HUB处理公司在公共资源块之间的资产与公司网络内部的金融私人块状内部分类帐之间的挂钩。

LKC HUB监控到邮件中包含的最终目的地的公司的主要主帐户的密码货币或令牌的传入。 它将该金额锁在公司的公共主账户中。 随后，它创建了公司的私有块中的等效私有令牌，并将其发送到相应的帐户。 当LKC HUB通过接收到包含在消息中的最终目的地的公司的私人主帐户的传入转移来检测到外发交易时，LKC HUB将在mijin私有块上刻录这些令牌，并在公开块上解锁密码或令牌，并将其发送到相应的地址。

菲亚特挂钩令牌

菲亚特加密货币将在密码格局中出现并快速增长。 一个例子是Tether，一种美元挂钩的收缩货币，从4月份的约5500万美元的市值上升到7月份的2.9亿美元，涨幅达527%。

一些项目，如BitUSD或NuBits，试图以分散和无信赖的方式使用其专有算法将美元与其密码货币挂钩，但是这些计算失败了。

系绳的方法是由台湾公司经营的集中和私有的服务，是由美元支持的期货合约衍生产品。 这种与美元挂钩的方法是确保其价值真实的更有效的方法。 即使在富国银行的美元账户停产之后，更多的证据表明它仍然是可行的模式。

Tether Charts

资源：http://coinmarketcap.com/assets/tether/

系带（符号：USDT）不仅被视为在诸如Bitfinex和Poloniex等多个主要交易所的标准USD挂钩加密货币，也已经证明，即使用户完全集中，用户也喜欢稳定的挂钩货币。

使用LKC CORE，LKC将为这些主要的固定加密货币发行挂钩代币，并允许人们以实体货币进行交易或契约，实际上是在NEM和Ethereum块状交易。

Cryptocurrency Pegged令牌

与同样的标记令牌相同的逻辑，LKC还将在NEM和Ethereum块链（如NEM：BTC或ETH：BTC）上发出加密的令牌。

公共街区业务交易

LKC结合了固定的标记和加密标记代码，现在将实际的业务交易带入公共的块状链。人们可以在公共块链上使用平面或加密等价值，以便在NEM上进行智能签名合同或者在Ethereum上进行智能合同。

一次性使用多方智能合同

Mijin即将推出的新型Catapult引擎具有称为"总计交易"的独特功能。　"总计交易"基本上将多个交易作为一个集合组合，并允许他们在所有相关方完成多重签发后同

时进行交易。 请注意，这不是通过多重合同完成的，只要最终余额有效，它就是原子掉期。 这可以被认为是由Catapult Core本机支持的一次性使用多方智能合同。 思考和执行合同的这种新方式通过API调用工作，并消除了为长期和重复使用设计的复杂的智能合同撰写的负担和风险。 此外，一次性使用合同将根据可用余额执行或不执行。 这样做会限制损失，而长期的智能合同写得不正确，并且会受到一再遭到攻击。

代替交易费

对于一个总计交易的例子，我们假设爱丽丝想出售1 NEM：BTC为30万NEM：JPYZ，而Bob则反之亦然，但他们没有任何XEM。 现在，Alice可以通过支付0.00001 BTC来请求LOCKCOIN交换网络交易费用。 当所有3方签署请求时，LOCKCOIN交易平台的交易费用为1 XEM，并为该服务接收0.00001 BTC。 同时，爱丽丝和鲍勃可以互换这些价值观，而不需要购买任何XEM。
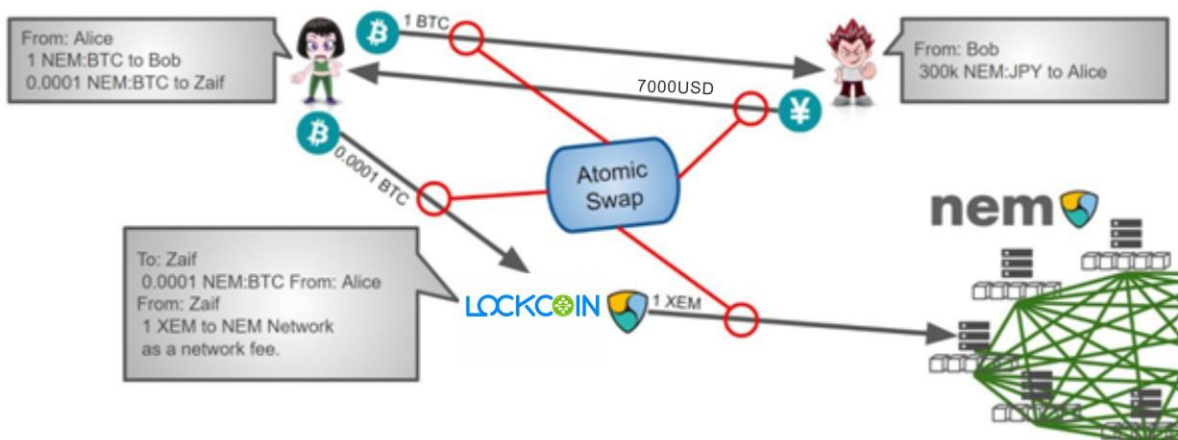
这个新概念允许人们在NEM公开的块上执行大部分的业务交易，甚至不需要使用XEM本地货币来支付交易费用。 我们相信这将为本国货币普及无现金交易，因为它不需要第三方的担保服务需求。

这个新功能将首先引入新的Catapult版本的mijin私有块链解决方案，随后将在2018年在NEM公开块中实现。

中心化服务的需求

如上所述，即使有长期的清算风险，Tether作为最受欢迎的固定密码安全性也迅速增长。 同时，即时交换服务，如Shapeshift和Changelly，也是集中服务，在用户数两大的网络平台中非常流行和方便。 使用这些服务的风险是最小的，并且限制在转换时间

和目的地区块链中的确认。 资产经过一段时间的集中式服务，一旦用户收到资产，该资产就被保护。 虽然建立了这样一个组块，理解是权力下放是一个基本的用户，但不可否认的是，集中式服务将会继续在密码行业中发挥非常重要的作用。

LKC使用块链技术来提供这些服务。 使用LKC，除了固定扣除令牌之外，人们可以通过将其资产立即处置在原始块状级别来最小化损失的风险。 如果有些交易所保证处置这些固定货币，那么风险将限于这个时间范围。 使用LKC，根据风险能力，可以首先使用区块链将法定货币或加密货币转换为代币。 我们相信，这些块状物的好处可以很容易地超过损失的风险，而不是像Shapeshift或Changelly那样。

关于NEM

NEM是世界上最大的blockchain / cryptocurrency项目之一。 NEM不是基于编程语言的合同，而是强调其智能资产模型和基于签名的"智能签署合同"，可通过API开箱即用。 此外，它可以利用一个脱钩的智能合同来将其交易结果推到块上。

NEM块链解决方案允许使用命名空间和子命名空间在树状结构中创建唯一定义的令牌资产。

凭借On-chain智能资产建模，脱钩智能合同和智能签约合同，强大的NEM协议可大幅度将应用开发时间缩短50%。

NEM的本机密码体系称为"XEM"，在2年内成为了世界上最大的加密货币之一。

关于米金

Mijin是由Tech Bureau出售的私人块链技术平台。 该技术平台由NEM块链项目的核心开发人员开发。 基于NEM协议，mijin允许任何实体使用对等网络在私有块链中构建高事务吞吐量。

Mijin有各种用例，证明它是一个强大而实用的blockchain产品。 这些用例包括：

世界上第一个Infoteria申请微型融资。

赛诺运输有限公司物流POC

中电电力有限公司

在Sakura互联网主办的CloudChain测试计划中，有300多家企业测试或使用mijin：NEC，NTT Data Getronics，TIS，NRI等。

关于Ethereum

Ethereum是一个基于开放源码，公共的，基于块的分布式计算平台，具有智能合同（脚本）功能，有助于线上订约协议。 它提供了一个分散的图灵完整虚拟机，即Ethereum虚拟机（EVM），可以使用国际公共节点网络执行脚本。 Ethereum还提供了一个名为"ether"的加密标记，可以在帐户之间传输，用于补偿参与者节点进行计算。 内部交易定价机制"天然气"用于减轻垃圾邮件并在网络上分配资源。

核心团队

CEO

SUZUKI SHOU

日本国立大学经济系学士学位，多年日本企业战略管理和融资经验，曾任职美国安奈特网络中国区总裁、联合创立了行业知名的移动支付公司公司；具有公司并购的实践经验；对商业保理融资、风险控制等业务有深入研究和丰富的执业经验。

CTO

谢晓峰

上海交大硕士，曾任职日本索利通技术总监，负责东芝、美能达等电子商务平台开发维护；任职易麦通时，负责品质365平台及基于区块链技术的农业银行企业内网的规划、开发、运营；还曾负责或参与过架构和规划建筑行业安全物联网技术框架、上海汽车集团车享网、AVIS汽车租赁电商平台等

COO

TANG CHY

金边皇家大学经济管理系，比特币早期投资者，多个大型ICO社区推动者,曾任柬埔寨知名O2O企业运营总监。

天使投资人

欧阳君

川大MBA; 2016年关注区块链技术，并开始研究新技术在原产地平台上的应用；曾联合投资创立台湾东泰立医疗城市统一挂号平台；投资创立西南最早的网络安全公司之一；卡卡原产地垂直电商平台，投资创立嘿土餐饮管理有限公司，建立农产品体验店。

附件- 使用案例

- 人才交易网-

我们说一些人才管理业务"A"是发行几十个人才的交易卡。 "A"为NEM块上的每个人才发出令牌资产，并为用户提供一张应用程序，以收集这些卡。

LKC首先支持"A"作为其中心货币的ICO。 "A"提供一定数量的资金来开发交易卡服务和应用程序。

"A"每个人才创造10,000个交易卡作为NEM块链上的令牌资产。 用户必须首先获得"A令牌"，从"A"或交易市场购买任何交易卡。 随着用户逐个收集交易卡，交易卡被添加到应用中。 这些卡可以直接在用户之间交换或转移，或者在LOCKCOIN交易所交易。

用户将这些卡片发送到游戏应用程序进行播放，播放规则是用Ethereum网络上的公共智能合同编写的。 对于应用程序之间的令牌转移，LKC CORE将NEM资产转换为Ethereum令牌。 所有费用将通过"A令牌"中的"A"向用户收取，以支付网络费用。 游戏应用程序还允许用户从其他用户获取交易卡，自动转入他们的应用程序。 这些交易将通过LKC CORE进行转换。
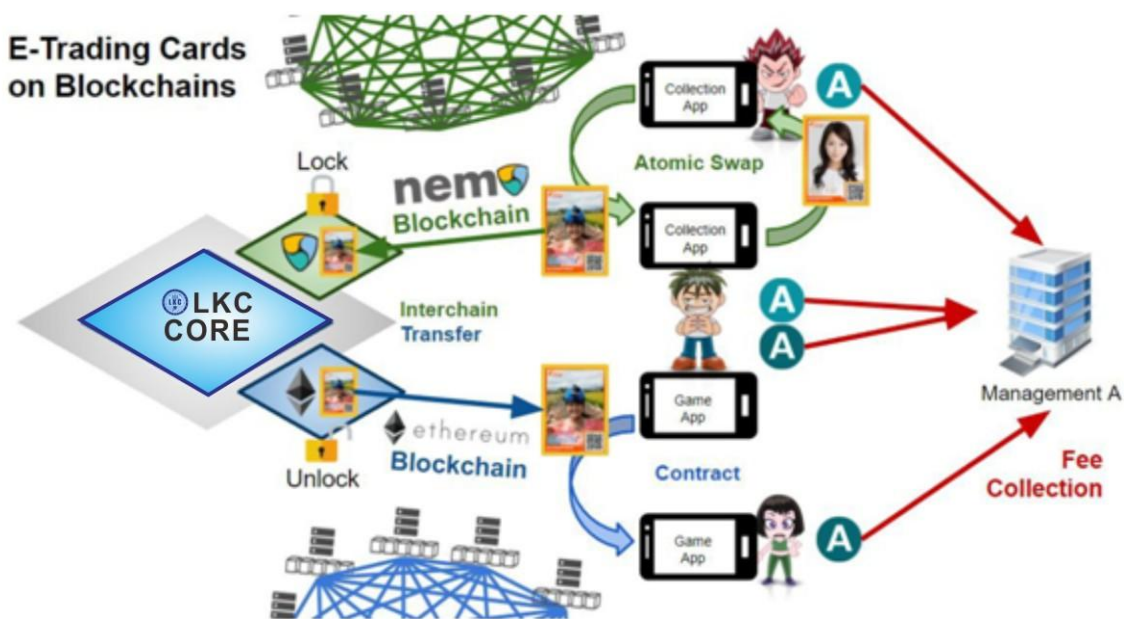
使用原始秘密密钥或某些令牌设备来管理交易卡的库存，而不是使用mijin私人分类帐建立库存管理系统。 只有通过指定的运营商和管理团队之间的多重签收才能授权新颁发的令牌的转让。

资产信息将被公开披露，开发商可以创建自己的应用程序或Web服务来处理交易卡。　"A"保留交易卡图像的所有版权，并可以保护他们免受未经授权的商业用途。

"A"分配一部分来自新卡片的收入和转换费用，以回购并刻录"令牌"。

– VR世界货币 –

虚拟现实是一个新奇，正在成为一个热潮。 同时，它的使用和复杂性正在经历范式的转变。 新的虚拟现实游戏将需要在虚拟经济中为每个游戏设置专门的货币。 林登美元的第二人生就是这样一个例子。

一个Blockchain解决方案，特别是如果它运行在具有更多控制和灵活性的私有网络上，则非常适合VR游戏，而可能还有其他问题运行的公共链接。

LKC是一个非常适合的解决方案，公共块链中的货币令牌可以使用mijin私有块来集成到VR游戏的内部和私有块。 这些分类帐将使用LKC HUB进行同步和平衡。

这种紧密耦合的集成允许用户从VR领域外的令牌发送和接收由由mijin私有块链驱动的VR领域中的特定用户。 此外，货币可以是任何面值，如ICO发行人的令牌，比特币，XEM，以太网，甚至是平价货币挂钩的代币。

这种VR平衡管理方法现在使用块链来管理余额而不是遗留数据库。 本质上，块链解决方案使其更加安全有效。 LKC产品还允许令牌转移在更多的公共块链中普遍存在，从而覆盖了广泛的市场。

私有块链可以实现每秒超过一千个事务的高得多的吞吐量，从而在虚拟现实环境中实时实现微交易。这允许VR游戏在一个块上运行，同时允许在VR平台上使用公共的块链接令牌。

VR令牌余额无法更改，可以使用mijin私有块链中的API轻松审核。 因此，欺骗和令牌平衡的操纵在块状环境中是充分的。

这种高度安全的环境可以防止大量的欺诈发生，并且还可以让用户放心，他们可以将钱或加密货币发送到VR环境中，并确保其令牌余额不会被更改或操作。
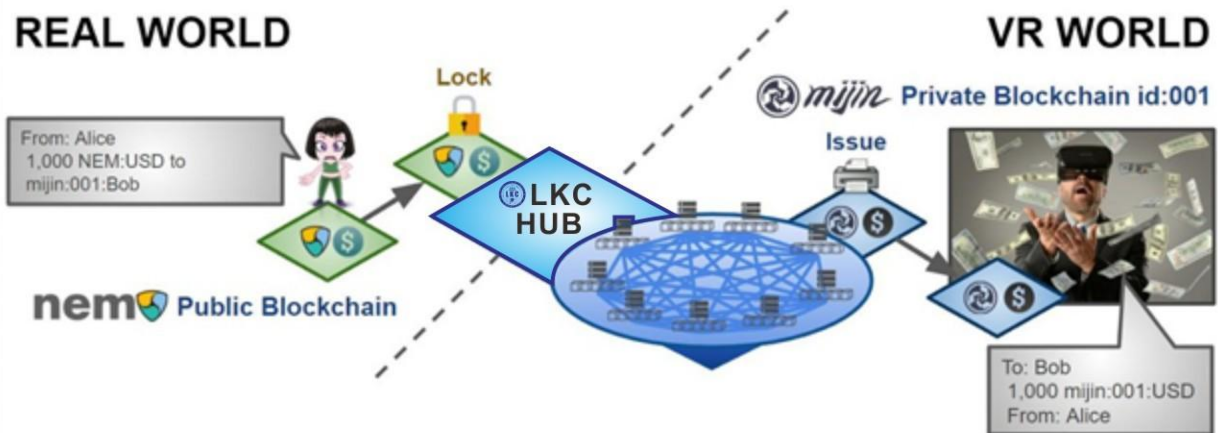
在上面的例子中，LKC通过向VR私人链路中的Bob发送等效的挂起金额的mijin.001：USD，将Alice的NEM：USD（公共块链）链接到Bob，都可以使用LKC解决方案。

IoT认证和分类帐

在物联网时代，我们必须管理数以百万计的设备和数百万个账户余额，用于交换其中的货币价值。

区块链技术可以成为IoT管理它们的最佳答案，而LKC解决方案将是最合适的。

谈论公共街区时，交换能力问题总是困扰着我们。 有几种开发技术，如侧链或闪电网络，提出了利用私有块链网络而不是附加层技术的现实解决方案。

可以在具有相同地址的多个mijin网络中使用由设备生成的地址。 LKC HUB允许多个mijin网络相互通信以同步和挂起令牌，而同时它们的平衡在这些mjin网络之间保持一致，甚至在Bitcoin，NEM或者Ethereum等公共块链上保持一致。

任何设备都可以使用私有块链上的多重请求进行身份验证，这可以处理高吞吐量事务。

这使得设备能够将自己的货币余额作为微交易处理，作为他们所做的微型工作，而且处理量很高。

分类帐本身可以驻留在设备内部或外部。 在不影响安全性的情况下，mijin让这些设备与Internet上的多个私有块链交互。
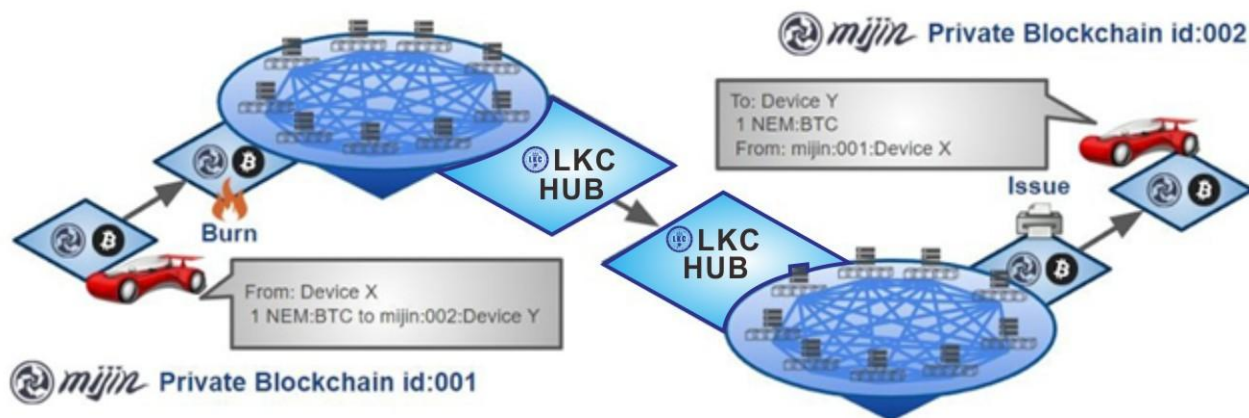
使用LKC，现在这些设备可以直接处理固定的令牌或加密密码令牌。 设备的所有者可以控制哪些人可以在设备中传输平衡，并且甚至可以通过从设备中删除其键来停用它们，甚至可以在设备失去控制的情况下将其关闭。 所有这些认证和控制都可以使用公共块链或mijin私有块链中的本机NEM协议完成。

这些迷你网络不仅可以处理价值或金钱转移，而且还可以加密嵌入交易的消息。 例如，可以通过空中发送命令给她的汽车更新其固件，只能由汽车本身打开并通过多重授权进行授权。 所有这些消息或请求都可以通过Internet而不是VPN发送。

使用LKC解决方案，控制物联网设备和管理分类帐比以往更容易。

LKC

- the ICO solution for centralized businesses to adopt blockchain technologies -

Whitepaper summary Rev.1.1

INDEX

Summary

Ever since the introduction of Bitcoin as a crypto currency in early 2009, we have witnessed great interest in the usage of the technology. In a span of 8 years, we have seen an astronomical growth in the landscape, with close to a thousand different projects centering on the blockchain technology. This rapid growth gave rise to the use of cryptocurrencies that are an alternate form of value transaction within the burgeoning blockchain community and which are fast spreading to mainstream use.

Of recent times, there have been many newly created projects in the blockchain space that are focused on crypto-centric users, some of which are cutting edge and highly motivated to not only succeed in the initial offerings but scale as markets and economies transform over time. On the contrary, most of the headlines by mainstream and legacy organizations/enterprises on the use of blockchain solutions are no better than a simple proof of concept. The majority of these mainstream initiatives even leverage on taglines such as "blockchain inspired" or "blockchain centered" technologies, thus giving a new impetus and interest to their existing business.

The general notion is that cryptocurrencies are inherently volatile and this feature is here to stay. In fact, volatility can sometimes be a strong selling point for cryptocurrencies, but that is also one of the largest obstacles for real businesses to adopt them. And network fees always haunt us as we try to implement public blockchains in legacy business practices such as trades, bookkeeping, guidelines, or compliance. The fees, per se, are not that they are expensive, but they become an administrative nightmare as their users should not be bothered with having to deal with managing their transaction fees.

It is therefore without a doubt to conclude that this phenomenal growth has left many gaps that have yet to be fulfilled. The existence of these gaps has resulted in a high barrier to entry for enterprises who have trouble trying to bridge their islands of existence to the rest of the crypto and mainstream economies. We are in a state of flux and solutions are needed to address these issues.

Tech Bureau Corp. is now carrying out an token sale exercise to crystalize an effort to offer a solution to address the aforementioned problems.

The following are the details of ICO plan :

Step one

Private sales of token

TIME	Price/yuan	Remark
November 20th 2017 To December 10th 2017	0.3	The total amount of private fund-raising is 100 million yuan （until the sale ends or the time is over）； Within 3 working days after the private placement , the tokens will be issued and be locked, and it will be unlocked on January 5, 2018.

Step two

ICO release

Time	Token	Exchange rate	Remark
December 20th 2017 to January 5th 2018	HSR	1 HSR To 250 LKC	The total number of ICO issuance is 50 million; After the end of the ICO issuance, it will be launched at Cambodian LOCKCOIN digital trading platform before January 20, 2018. in 90 days, it will be Traded on the Japanese digital trading platform.

Allocation of funds

Use of funds	Proportion
develop the ICO platform and promote the operation-system	25%
LKC Marketing promotion	15%
Offline payment and DAPP development	20%
Pre-investment (including financial licence and payment licence)	15%
Operation and maintenance	15%
Set up offline payment environment	10%
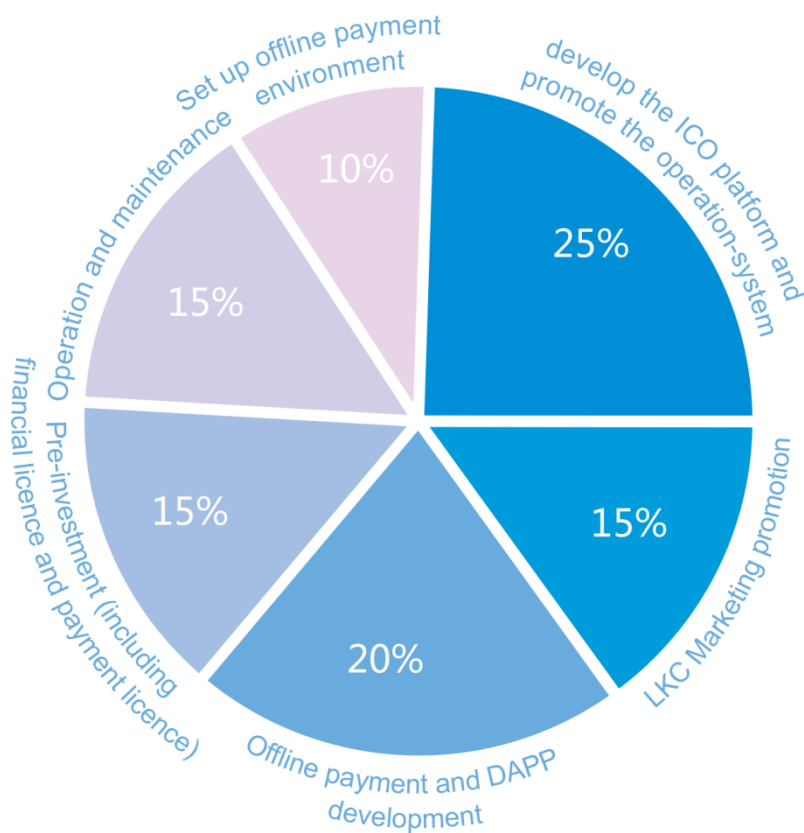
LKC Functions and Benefits

LKC is a platform gateway for a variety of blockchains aforementioned. This platform can also be used by companies that wish to carry out their ICOs. LKC's value proposition is its infrastructure where it can offer these companies a complete ecosystem for their ICOs, which includes the LockCoin, multi-cryptocurrencies subscription, cross-platform integration and a ready ICO asset creation through the use of the NEM and Ethereum public blockchains and mijin private blockchain respectively.

As part of LKC's very own token sale, LKC holders who bought their LKC from LKC's token sale exercise will get to enjoy a premium bonus of 5% for every LKC they use to participate in these future ICO campaigns on the LKC platform.

As detailed later in this paper, we have managed to secure interests from a few successful businesses to use the LKC platform for their upcoming ICOs, which naturally, will create more demand for the LKC tokens.

Community Vote

Although all ICO projects will be screened by Tech Bureau and the ICO Committee, there could still be challenging projects that are potentially risky to token buyers. In such cases, LKC will escalate the projects to the community to vote.

LKC token holders will be eligible to vote for these ICO projects based on the number of tokens they hold at a certain block height to determine whether it should go ICO with LKC or not.

LKC will create a contract on Ethereum blockchain to allow ETH:LKC holders to vote using special voting tokens. Holders can send those tokens to specified addresses.
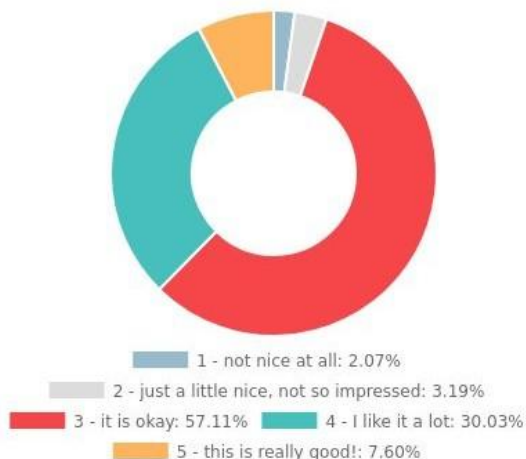
On the NEM blockchain, voting will be even easier. NEM's open-source wallet software Nanowallet now has an official voting module. We can allow NEM:LKC holders to vote directly from the wallet.

Poll Address: TBQOQWOZ43RTMQZGWQ4DDMLQOKBCFBOMT6EHS5GG

`POI` Date of ending: 07/09/2017 at 6:01PM

Vote   Multisig   **Results**

We are rating the testnet version of Poll Center. How nice do you think it is? Rate 1 - 5. 1 is not so nice. 5 is great. please vote on this poll many times to test the scalability. (note: this poll enables multiple votes, so if you want to give it a rating of 3.5, you can vote for 3 and 4 and you voting weight will be split among the two.)

- 1 - not nice at all: 2.07%
- 2 - just a little nice, not so impressed: 3.19%
- 3 - it is okay: 57.11%   4 - I like it a lot: 30.03%
- 5 - this is really good!: 7.60%

1 - not nice at all
votes: 5
weighted score*: 1.8379e-4
percentage: 2.07

2 - just a little nice, not so impressed
votes: 6
weighted score*: 2.8293e-4
percentage: 3.19

3 - it is okay
votes: 12
weighted score*: 5.0689e-3
percentage: 57.11

4 - I like it a lot
votes: 15
weighted score*: 2.6648e-3
percentage: 30.03

5 - this is really good!
votes: 14
weighted score*: 6.7463e-4
percentage: 7.60

Burn of LKC Token

A certain portion of revenue related to LKC solutions will also be allocated to burn LKC tokens on the Zaif market from time to time. These revenues include:

- ICO consulting and service fees.
- Conversion fees of LKC CORE.

- Mijin license fees and BaaS license fees.

Invitation-Only Pre-Sale of Future ICOs

As a privilege, LKC token holders will also be invited from time to time to invest in future ICO projects which are only opened to invited participants and not for the public.

Budget Allocation

Funds raised from the token sale shall be allocated for the following:

- Development of LKC ICO token sale platform.
- Development of the LKC CORE
- Development of the LKC HUB.
- Development of crypto pegged tokens.
- Development of fiat pegged tokens.
- Add multi-language user interface and customer support to LockCoin (English,Chinese and more).
- Add streamlined processes to list any ERC-20 tokens or NEM MOSAIC tokens on LockCoin.
- Add /XEM and /ETH to all the currency pairs.
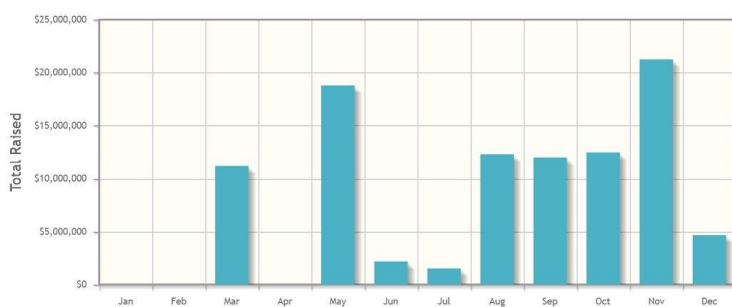- PR and marketing of LKC solution and its related services.

ICO Market and Industry

In June 2017, the total funds raised by ICOs exceeded the amount that blockchain startups had raised from venture capital companies for the 12 months preceding it.

Since Apr. 2017, the ICO market has been growing rapidly by more than 100% every month, and 30 or more ICOs are being launched in July.

Cryptocurrency ICO Stats 2016

Year: 2016 ▼

Total Raised: $96,389,917
Total Number of ICOs: 46

Top Ten ICOs of 2016

Position	Project	Total Raised
1	Waves	$16,436,095
2	Iconomi	$10,576,227
3	Golem	$8,596,000
4	SingularDTV	$7,500,000
5	Lisk	$5,700,000
6	Digix DAO	$5,500,000
7	FirstBlood	$5,500,000
8	Synereo	$4,700,000
9	Decent	$4,178,357
10	Antshares	$3,608,378

Note: Figures do not include "The DAO" that raised $168M but was refunded after the smart contract was hacked
Totals raised are grouped by the ICO closing date and are valued using BTC exchange rate at that time. Data correct on 24th June 2017 14:00 UTC

Cryptocurrency ICO Stats 2017

Total Raised: $888,251,174

Total Number of ICOs: 78

Top Ten ICOs of 2017

Position	Project	Total Raised
1	Bancor	$153,000,000
2	Status	$90,000,000
3	TenX	$64,000,000
4	MobileGO	$53,069,235
5	Sonm	$42,000,000
6	Aeternity	$36,960,594
7	Basic Attention Token	$35,000,000
8	Civic	$33,000,000
9	Storj	$29,222,856
10	Monaco	$26,557,824

Totals raised are grouped by the ICO closing date and are valued using BTC exchange rate at that time. Data correct on 24th June 2017 14:00 UTC

Source: https://www.coinschedule.com/stats.php
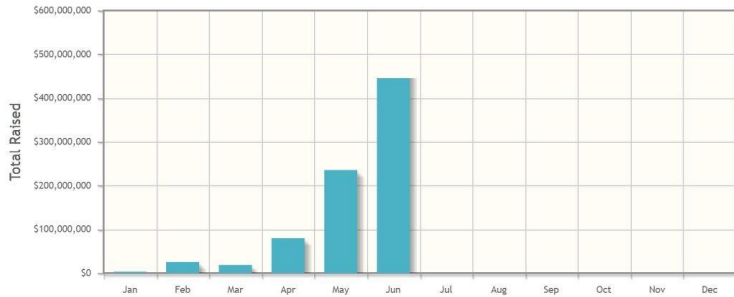
### Total USD Raised through ICO's in 2017

token data

Source: tokendata.io

The total market cap of cryptocurrencies has risen close to 6 times in just 4 months from 20 billion USD to 116 billion USD at its peak in June. Contrast this with how it took the market 8 years since the launch of Bitcoin to reach a market capitalization of 15 billion USD.

Global Charts

Total Market Capitalization

Zoom 1d 7d 1m 3m 1y YTD ALL   From Dec 24, 2015 To Jul 11, 2017

Source: http://coinmarketcap.com/charts/
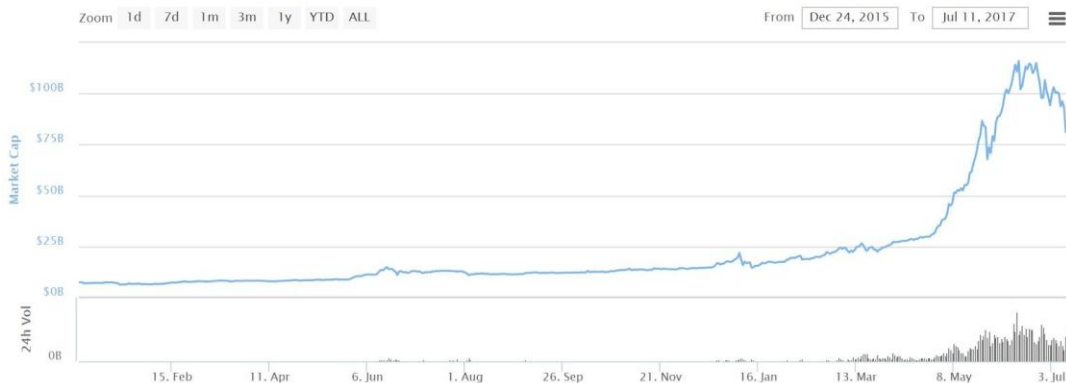
We expect the total market cap to grow up to 1 trillion USD by the end of 2018, with the ICO market growing to more than 5 billion USD by then.

LKC's goal is to target 100 million USD in 2018 with more than 20 ICO projects.

LKC ICO Solution

LKC is not just a cross-chain controller and router. It is also a conduit for future ICOs that want to exist in the LKC ecosystem. As part of the project, a LKC team is now already in place to provide companies with consultation, expertise and solutions to support their very own ICOs and implement blockchain technology into their business practices, all at the same time, as a one stop solution.

| Preparation | ICO | Listing | Token Usage | Maximization of Value |

Given the pent up demand, the LKC team is forging ahead to provide consultation to companies wishing to go ICO while LKC is building its platform. These early ICOs will be using the existing infrastructure of LKC, such as the LockCoin and its technical expertise to make use of the existing independent blockchains of Ethereum, Bitcoin, and NEM to raise cryptocurrencies while LKC builds the integrated system for them to latch onto eventually. The initial services we will be offering will include:

- Business planning and service design utilizing blockchain technology, especially tokens.
- Tokenizing mainstream assets into cyberspace assets.
- Legal support for ICO and tokenization.
- Creation of a multi-language whitepaper.
- Token issuance and sale using a crowdsale platform
- Providing a market on LockCoin.
- Mijin private blockchain technology on the premises or on BaaS as internal ledgers.
- Network fee delegation and fiat & crypto pegged tokens to allow existing business transactions on NEM public blockchain in fiat currencies or major cryptocurrencies.
- Smart signing contract development on the NEM blockchain.
- Smart contract development on the Ethereum blockchain.

In future, when the LKC platform is completed, we will include the following services into these ICO companies and new ICOs with the following value added services:

- Integration with the LKC CORE
- Integration with the LKC HUB to connect and peg between the mijin private blockchain and public ones.

LKC and Other Upcoming ICO Projects in 2017

Instead of future decentralized apps, LKC focuses on existing mainstream businesses to launch their ICOs. This method of ICO not only brings legitimacy to ICOs but also introduces mainstream businesses to leverage on the cost-effective, safe, and secure blockchain technology to improve their businesses and position them to be more efficient.

Starting with LKC itself as the first ICO, we will have the following ICOs scheduled immediately after, later in the year.

1. Premium Water Holdings Inc (2588.T)
2. CAMPFIRE Inc. - the largest crowdfunding service in Japan -

The above are successful businesses in the off-chain world from Japan, but the LKC solution is not limited to just Japanese businesses. We have started inviting businesses globally for ICOs. Details of each ICO shall be revealed and disclosed as more ICO projects are to be announced, but suffice it to say that the response so far has been great.

The above ICO projects will proceed ahead without our core platform offerings but will be integrated when we are ready to include the LKC platform solution.

What is LKC

LKC is aims to solve the problem of bridging enterprises and their existing businesses to public blockchains. LKC is proposing to bridge NEM, Ethereum and the Bitcoin public networks together with the mijin private blockchains that enterprises will be using. The idea is to bridge these enterprises and cryptocurrency owners so as to provide an avenue for cryptocurrency owners to spend while enterprises can have an immediate and extended market to sell their products and services and continue to develop their blockchain solutions to cater for mainstream users. Additionally, this symbiosis also allows both sides of the crypto and mainstream economies to come together on a common ground, promoting the proliferation of the crypto economy into the mainstream, vice-versa, and therefore, help in the widespread acceptance of crypto currencies.

LKC, a project to be undertaken by Tech Bureau Corp, will carry out an ICO exercise and issue ICO tokens. This project will enable centralized businesses the ability to utilize blockchain technology and prepare them for the eventuality of being able to face a more decentralized world.

Companies issuing ICO Tokens using LKC

No matter what protocol one is using, whether it is Bitcoin, Ethereum or the NEM protocol, enterprises can now choose the right technology to suit their requirements. Additionally, LKC enables organizations that have already previously embarked on any of the protocols to still leverage additional services and to extend its reach to the other ecosystems offered by LKC. This powerful utility using the LKC platform, in combination with LockCoin makes this offering a holistic enterprise class solution never seen before.

LKC allows enterprises to remodel and monetize their organization as a private token economy on the blockchain using the strong NEM protocol, as well as the ability to utilize powerful smart contracts of Ethereum to begin building decentralized applications. By leveraging on LKC, the deployment and implementation of a blockchain will be much easier and faster than ever before, as well as giving more breadth to the enterprise.

The NEM protocol using the mijin engine not only helps enable the business of an organization that uses it, but it also provides the bridging of existing monetary values used in trades (i.e. fiat currencies, major cryptocurrencies, etc.) onto the NEM ecosystem and Ethereum decentralized applications. By consolidating these processes, an organization can begin implementing a blockchain along with existing compliances and guidelines without affecting or disrupting its current business practices. Customers can now leverage on the blockchain in their preferred currency.

Tech Bureau's powerful private blockchain solution, mijin, also becomes a hub between a decentralized and a centralized economy. By pegging tokens between internal private and external public ledgers, businesses can build a high-throughput blockchain record of transactions. This not only allows organizations to obtain compelling benefits from the blockchain but also leverages on the resources and advantages from within these organizations.

In conjunction with the LockCoin, which serves as a centralized trust-cum-exchange, that shall be approved by the regulators, FSA of Japan, LKC offers an unparalleled service that allows a cryptocurrency (e.g., Bitcoin) to flow into the various networks and transact as if it is a coin in that network. What it essentially means is that a cryptocurrency from another blockchain can be transacted in the NEM blockchain as an asset, and with this asset being backed by Zaif as the trust-exchange.it can also be traded in the LockCoin as if it is a NEM or Ethereum asset. Additionally, the same cryptocurrency can flow into the private mijin network, into the enterprise services and get traded as if it is a cryptocurrency in that ecosystem. In other words, fiat-backed and cryptocurrency-backed tokens - from outside the native blockchain - can be traded, interchain, between NEM and Ethereum. As an example, one can virtually swap Bitcoin and USD on the NEM or Ethereum blockchains and can even forget about network fees in some cases as described above. LKC brings cross fungibility of coins in the networks it serves.

This is all made possible by utilizing the new Japanese crypto exchange regulations enforced with a strong segregation fund clause – the mandatory "trust" requirement.

By pegging tokens among NEM, Ethereum, and mijin private blockchains, the LKC solution becomes a practical "catalyst" between centralized businesses and decentralized blockchains. In addition, the offering helps contribute to the growth of the entire blockchain ecosystems in Bitcoin, NEM, and Ethereum.

In summary, the LKC solution provides the following:

1. Hybrid token issuance pegged between NEM and Ethereum blockchains.
2. ICO solution and support using the above.
3. Crypto pegged tokens on NEM and Ethereum (BTC, ETH, and XEM)
4. Fiat currency pegged tokens on NEM and Ethereum. (JPYZ, Tether, etc.)
5. High-throughput private blockchain mijin for the internal token ledger.
6. Crypto exchange Zaif to guarantee listings of tokens and to insure pegged tokens.

The LKC current strategy is to emphasize on bringing centralized businesses together, enhance these ecosystems with elements of decentralization, and then when the technology matures, upgrade them into additional decentralized business models. Accordingly, our policy now is to ensure that we are "as solid, as trustless, and as auditable as possible" before we emerge to be more decentralized as technologies mature. Tech Bureau recognizes how the future will be in a decentralized environment and therefore is able to bring this wealth of experience to help shape mainstream businesses in adopting and embracing blockchain technology.

With this method of solution using both private and public blockchains, LKC works as a core controller, a hub, and a catalyst. We believe LKC can contribute to the growth of the greater blockchain ecosystem including Bitcoin, NEM, and Ethereum by bringing more assets from mainstream into the blockchain space.
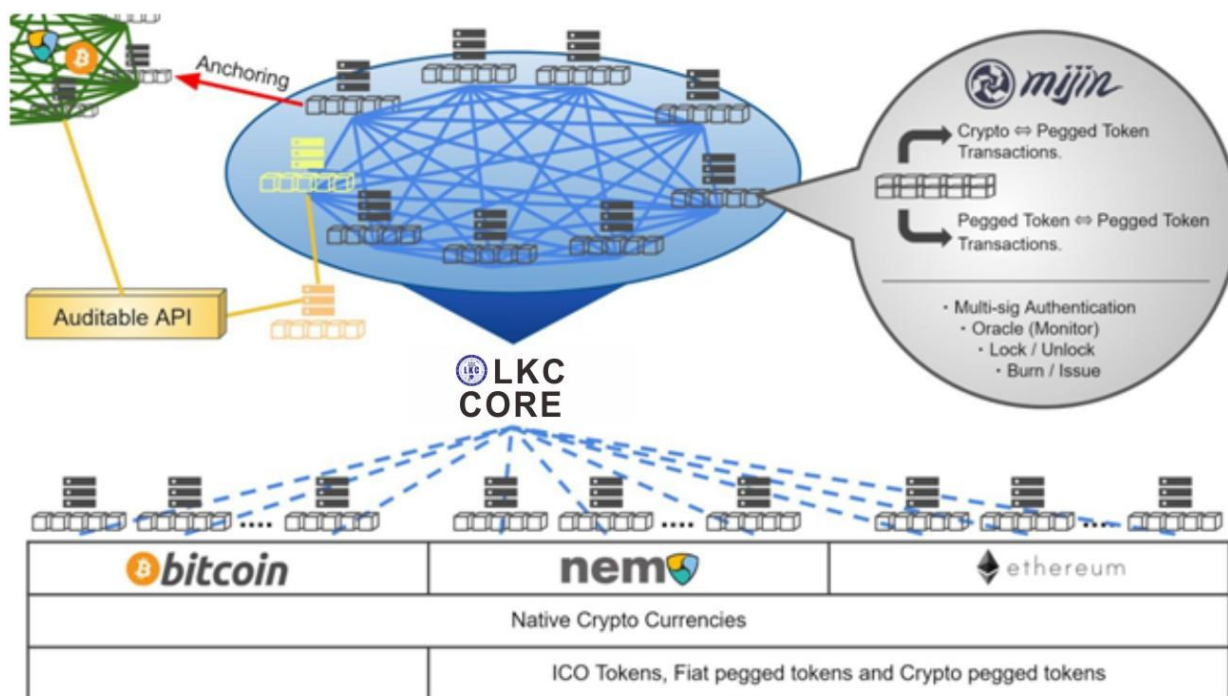
LKC CORE

We have mentioned the LKC CORE and LKC HUB in the description of our project. Here, we shall define the LKC CORE. LKC CORE is the most essential part of our LKC platform. LKC CORE pegs and controls tokens between the NEM, Bitcoin, and Ethereum blockchains as an independent service of Tech Bureau. It converts value among cryptocurrencies into pegged tokens with the total volume controlled.

LKC CORE monitors incoming transfers of cryptocurrencies or tokens into a LKC master account with the final destination details embedded in them. It then locks or burns that amount in the LKC master account. At the same time, it also unlocks or issues equivalent cryptocurrencies or tokens on the corresponding blockchain and sends them to their final destination account.
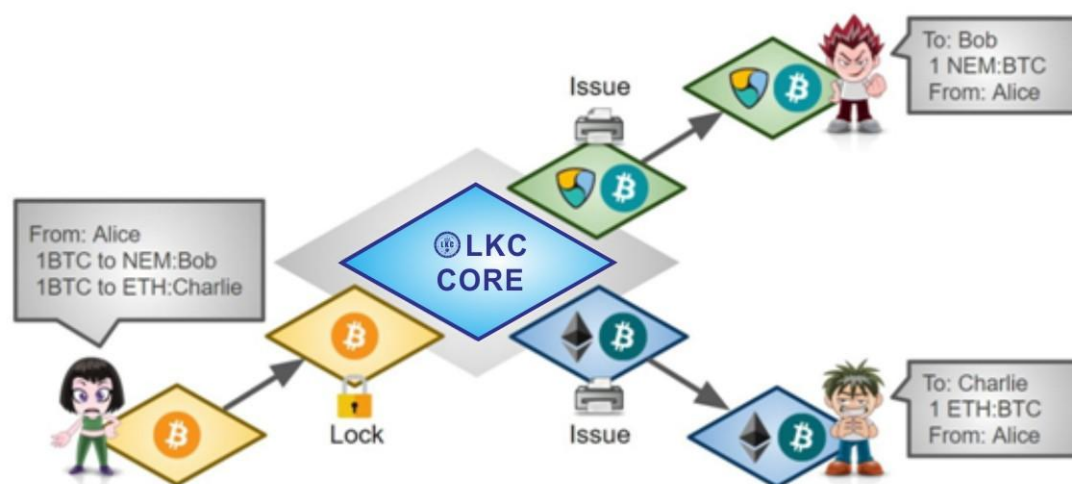
LKC CORE = Conversion Network

LKC CORE consists of a controlling application, an oracle application and 2 mijin private blockchain networks built on 9 cloud server machines, which are distributed globally to achieve zero-downtime token conversion service.

LKC CORE is a hidden and private network, except for one auditable API node. 9 nodes will be totally hidden from the public and work as a conversion network independent from public blockchains.

Zero-Downtime LKC CORE

There will be 9 servers built in 9 regions operated by 4 cloud vendors to achieve zero-downtime service. We are currently planning a 50 tx/s capacity (4.32 million tx/day) with 8GB of RAM and 8 core CPU on each node. So far we have built dozens of zero-downtime ledgers with our clients using mijin for the last 18 months and also expect no down time with the LKC CORE. The maximum throughput capacity stated above is for the internal ledgers only, with the performance of token conversion among public blockchains dependent upon the limitation of each blockchain.

Oracle (Monitor)

Each server works as an oracle to observe Bitcoin, NEM and Ethereum nodes for incoming transactions. The oracle analyzes the confidence level and number of confirmations for each conversion for authorizing any outgoing transactions.

Multi-sig Authenticator

Each server operates as a multi-sig signatory to sign all outgoing cryptocurrency or token transactions upon conversion. LKC will reach consensus with X out of 9 nodes being used as signatories.

LKC CONTROLLER

The LKC CONTROLLER consists of 9 nodes that will control the total volume of pegged tokens among multiple blockchains. The function of the LKC CONTROLLER includes:

- Locking and unlocking of cryptocurrencies.
- Issuance and burning of pegged tokens.

Auditable API

One of the mijin nodes will be duplicated and exposed as a publicly auditable API. This special node will not have any significant impact on the security of the private blockchain network and has no power to initiate, authorize or confirm transactions, thereby avoiding any unauthorized requests or confirmations.

Periodic Block hashes of the mijin ledger will be also anchored to the NEM and/or Bitcoin blockchain for proof of non-manipulation.

One of the main innovations of the blockchain is its auditability and as a direct result of that, a user's ability to trust the ledger's history. The main criticism often pointed at permissioned chains is that they can be easily tampered with, changed, or edited making their ledger untrustable. By anchoring the block headers of LKC into the Bitcoin and NEM public chains a full and transparent audit can take place allowing users to know the LKC ledger has not been compromised up to the point that an attacker would have had to unwind and undue both the NEM and Bitcoin public chains to have had achieved their task.

Two-Layer Ledger

As mentioned above, the LKC CORE shall be 9 servers running 2 mijin networks..

The first ledger is dedicated for the conversion between native cryptocurrencies and pegged tokens. And the second one is for the conversion among pegged tokens.

1. Native cryptocurrency ⇔ Pegged Token
2. Pegged Token ⇔ Pegged Token
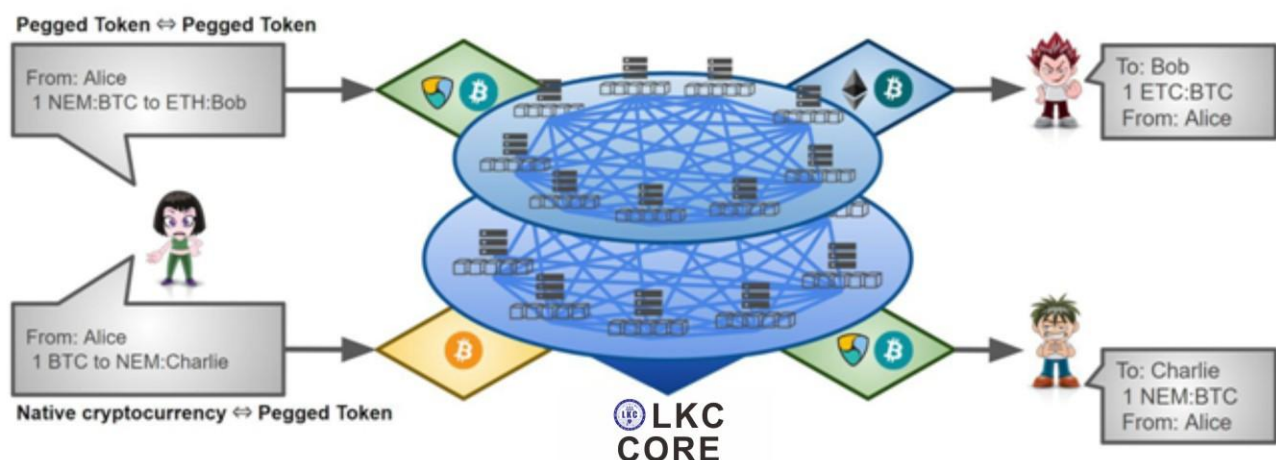
The Advantages of Centralization

In the worst scenario of a system failure, the total volume of pegged tokens might go off balance. A two-layer ledger will minimize the risk of inconsistency as a result of the failure. For conversions involving native cryptocurrencies, there is no way of rolling back the public blockchains. But we can halt the operation of the LKC CORE as a circuit breaker. We can then do a reconciliation of the discrepancy and adjust the balances accordingly.

In the event of a public blockchain facing a hard fork, as a centralized service, and like existing crypto exchanges, LKC can halt the conversion service and decide which fork to adopt as a legitimate chain. Depending on the business rules, we could also adopt and accept both forks as 2 separate blockchains.

Those incidents are technically hard for decentralized applications to handle. LKC CORE, as a centralized and independent service, will prioritize the benefit and experience of both the businesses and users.

LKC HUB

LKC HUB is a software for licensed holders of mijin private blockchains to control token balances between master public blockchain accounts and internal private ledgers.

LKC HUB can be installed as a part of any mijin private blockchain network as an independent service controlled by the business using it. Compared to LKC CORE that handles pegging among public blockchains as a service provided by Tech Bureau, LKC HUB handles pegging between the company's assets on public blockchains and the internal ledger on the mijin private blockchain inside the company's network.
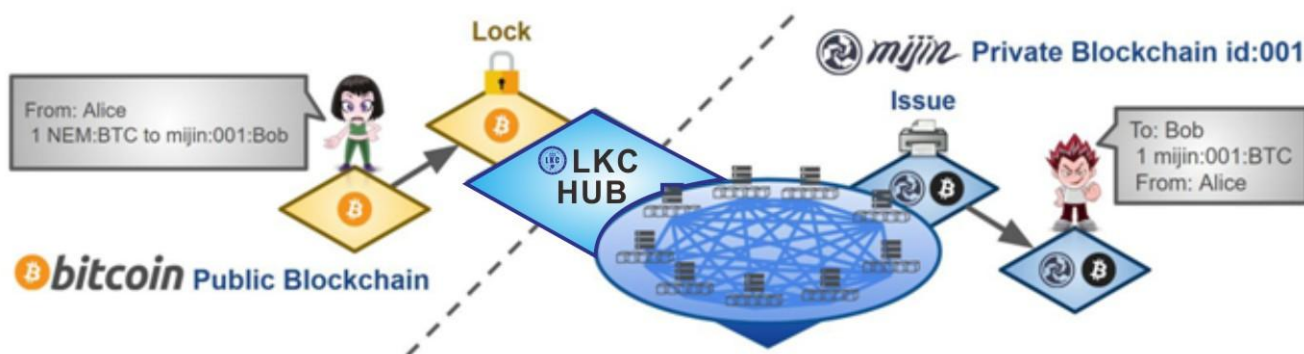
LKC HUB monitors incoming transfers of cryptocurrencies or tokens to the company's public master account with final destinations included in a message. It locks that amount in the company's public master account. Subsequently, it creates the equivalent private tokens inside the company's mijin private blockchain and sends it to the corresponding account. When it detects an outgoing transaction by receiving an incoming transfer to the company's private master account with the final destinations included in the message, LKC HUB burns these tokens on the mijin private blockchain and unlocks the cryptocurrency or tokens on the public blockchain and sends them to the corresponding address.

Fiat Pegged Tokens

Fiat-pegged cryptocurrencies are set to emerge and grow rapidly in the crypto landscape. A case in point is Tether, a USD pegged cryptocurrency, which grew from a market cap of about $55m in April to about $290m in July, representing a phenomenal growth of about 527%!

A couple of projects such as BitUSD or NuBits have attempted to peg the USD to their crypto currency in a decentralized and trustless manner using their proprietary algorithms, but these have failed miserably.

Tether's approach is a centralized and privately owned service operated by a Taiwanese corporation, and is a futures contract derivative, backed by the USD. This method of pegging to the USD is a more effective way of ensuring that the peg is true to its value. More proof to it being a viable model is the that it is still being circulated, even after the halt of their USD account at the Wells Fargo bank.

Source: http://coinmarketcap.com/assets/tether/

Tether(Symbol: USDT) is not only treated as if it is a standard USD pegged cryptocurrency at several major exchanges such as Bitfinex and Poloniex, it has also been proven that users prefer a stable pegged currency even if it is totally centralized.

The Japanese Blockchain Collaborative Consortium - BCCC, which Tech Bureau sits on its board, also has started a social experiment of a JPY pegged token, Zen (Symbol:JPYZ). JPYZ is currently a private token issued on the private Ethereum network as an ERC-20 token, and can be traded only among BCCC members. Participants were invited from BCCC's 150+ corporate members, and after 6 to 9 months of private tests, the token will be converted into a public ERC-20 token.

Using LKC CORE, LKC will issue pegged tokens for those major fiat pegged cryptocurrencies, and allow people to trade or contract in fiat currency virtually on NEM and Ethereum blockchains.

Cryptocurrency Pegged Tokens

With the same logic as fiat pegged tokens, LKC will also issue crypto pegged tokens on the NEM and Ethereum blockchains such as NEM:BTC or ETH:BTC.
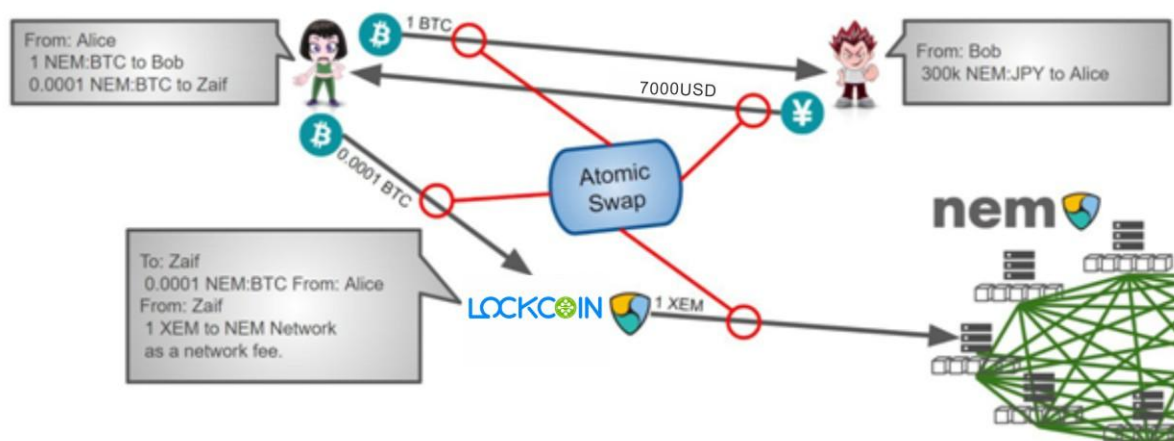
Business Transactions on Public Blockchains

In a combination of fiat pegged tokens and crypto pegged tokens, LKC is now bringing practical business transactions onto public blockchains. People can use fiat or crypto equivalent values on public blockchain for smart signing contracts on NEM or smart contracts on Ethereum.

One-time Use Multi-Party Smart Contracts

Mijin's upcoming new Catapult engine has a unique feature called "aggregate transactions". An "aggregate transaction" basically combines multiple transactions as a set, and allows them to simultaneously transact upon the completion of a multi-sig sign-off from all the parties involved. Note this is not accomplished via a multisig contract, it is an atomic swap, as long as the final balances are valid. This can be thought of as a one-time use multiparty smart contract that is natively supported by the Catapult Core. This new way of thinking about and executing contracts works via API calls and takes away the burden and risk of having to write a complicated smart contract designed for long term and repetitive use. Additionally, the one-time use contract will either execute or not execute as designed depending available balances. This limits the losses in contrast to longer term smart contracts that were written incorrectly and and are subject to repeatedly being attacked.

Free Delegation

For an example of an aggregate transaction, let's say Alice wants to sell 1 NEM:BTC for 300,000 NEM:JPYZ, and Bob wants vice versa, but they do not have any XEM. Now, Alice can request LockCoin for network transaction fee, by paying 0.00001 BTC. When all 3 parties sign the request, LockCoin pays 1 XEM for the network fee and receive 0.00001 BTC for that service. At the same time, Alice and Bob can swap those values without buying any XEM.

This new concept allows people to carry out most of the business transactions on the NEM public blockchain without even realizing the need to use the XEM native currency for the network fee. We believe this will popularize trustless transactions in native currencies as it eliminates the need for trusted 3rd party such as escrow services.

This new feature will be introduced in the new Catapult version of the mijin private blockchain solution first, and subsequently will be implemented in the NEM public blockchain in 2018.

Demand for Centralized Service

As mentioned above, even with the long term risk of liquidation, Tether is growing rapidly as the most popular fiat pegged cryptocurrency. At the same time, instant exchange services such as Shapeshift and Changelly, also centralized services, are very popular and convenient among many users. The risk of using these services is minimum and limited to the time of a conversion and a confirmation in the destination blockchain. An asset goes through a centralized service for that instant of time, but once it is received at the destination, the asset is secured. While the blockchain was founded with the understanding that decentralization is a fundamental tenant, it is undeniable that centralized services are and will continue to play very important roles for the crypto industry.

LKC uses blockchain technology to provide for these services. With LKC, except for the fiat pegged tokens, people can minimize the risk of loss by disposing their assets instantly at the native blockchain level. If some exchanges guarantee the disposal of those fiat pegged currencies, the risk will be limited to that time frame. With LKC, depending on the risk capacity, one can turn fiat currencies or cryptocurrencies into tokens first using the blockchain. We believe the benefits of these blockchains will override the risk of loss very easily, vis-à-vis the likes of Shapeshift or Changelly.

Japanese Regulation

On April 1st, 2017, a new law was passed and enforced to regulate crypto exchanges in Japan. Existing crypto exchanges have been given a 6-month window to register themselves with the FSA, i.e., by Oct. 1st, 2017. Tech Bureau's, Zaif, submitted its application to FSA for approval as one of the largest crypto exchanges in Japan. Approval is expected to be given by Oct. 1st, 2017.

This new Japanese regulation will enforce the need to have a proper audit of all transactions as well as requiring exchanges to have proper segregation of funds held in trust for both fiat currencies and cryptocurrencies. As a licensed and registered Japanese exchange, Zaif, will be able to utilize these segregation requirements of the regulation to provide better credibility than exchanges in other places.

All the funds received at LockCoin on behalf of LKC for crypto pegged tokens and fiat pegged tokens, will be segregated as required by law.

About NEM

NEM is one of the largest blockchain/cryptocurrency projects in the world. Instead of a programing language based contract, NEM emphasizes on its Smart Asset Model and signature based "Smart

Signing Contracts" available out-of-the-box via APIs. Additionally, it can utilise an off-chain smart contract to drive its transaction outcomes onto the blockchain.

The NEM blockchain solution allows the creation of uniquely defined token assets in a tree-like structure, using Namespaces and Sub-Namespaces.

With the combination of both the On-chain Smart Asset Modeling, off-chain smart contracts, and Smart Signing Contracts, the powerful NEM protocol can substantially decrease the application development time by 50%.

The native cryptocurrency of NEM is called "XEM", and it has grown its market cap by more than 100,000% in 2 years to be one of the largest cryptocurrencies in the world.

About Mijin

Mijin is a private blockchain technology platform sold by Tech Bureau. This technology platform is developed by the same core developers of the NEM blockchain project. Based on the NEM protocol, mijin allows any entity to build high transaction throughputs in a private blockchain using a peer to peer network.

Mijin has various use cases which prove it to be a robust and practical blockchain product. These use cases include:

- World's first bank ledger solution to be tested by a Japanese Internet bank.
- World's first application for micro financing by Infoteria.
- High throughput loyalty point system by Hitachi Solutions.
- Logistics POC for Seino Transportation Co.,Ltd.
- POC for Chubu Electric Power Co.,Inc.
- More than 300 businesses testing or using the mijin in the CloudChain beta program hosted by Sakura Internet: NEC, NTT Data Getronics, TIS, NRI, and more.

About Ethereum

Ethereum is an open-source, public, blockchain-based distributed computing platform featuring smart contract (scripting) functionality, which facilitates online contractual agreements. It provides a decentralized Turing-complete virtual machine, the Ethereum Virtual Machine (EVM), which can execute scripts using an international network of public nodes. Ethereum also provides a cryptocurrency token called "ether", which can be transferred between accounts and used to compensate participant nodes for computations performed. "Gas", an internal transaction pricing mechanism, is used to mitigate spam and allocate resources on the network.

Source: https://en.wikipedia.org/wiki/Ethereum

Core team

CEO

SUZUKI SHOU

Bachelor of Economics, National University of Japan, Years of Strategic Management and Financing Experience in Japanese Enterprises. Previous President of American Annet Networks China, Co-founded Mobile Payment Company, a well-known company in the industry; Practical experience in corporate mergers and acquisitions; Financing of commercial factoring , Risk control and other businesses have in-depth study and rich experience in practice.

CTO

Xiaofeng Xie

Master degree of Shanghai jiaotong university, has served as the technical director of Japan solliton, and is responsible for the development and maintenance of electronic commerce platforms such as Toshiba and meiolda. To be responsible for the planning, development and operation of the quality 365 platform and the agricultural bank enterprise Intranet based on blockchain technology. he has also been responsible for or participated in the architecture and planning of the construction industry security iot technology framework, Shanghai automotive group car network, AVIS car rental e-commerce platform, etc

COO

TANG CHY

The economic management department of the royal university of phnom penh, an early investor in bitcoins, as well as a number of large ICO community promoters, has served as the director of operations of well-known O2O enterprises in Cambodia.

Angel investor

Jun Ouyang

MBA of sichuan university ; focus on blockchain technology and began to study the application of new technologies on the origin platform since 2016, He has invested in the establishment of a unified registration platform for Taiwan's dongtai medical city. He founded one of the earliest Internet security companies in southwest China; Kaka co., LTD., a vertical e-commerce platform, invested in the establishment of a company catering management co., LTD., and established the agricultural product experience store.

APPENDIX 1 - Use Cases

Use Case - Talent Trading Cards -

Let's say some talent management business "A" is to issue trading cards for dozens of talents. "A" issues token asset for each talent on the NEM blockchain and provides an app for users to make a collection of these cards.

LKC first supports "A" to go ICO for "A token" as its central currency. "A" raises a certain amount of funds to develop trading card services and apps.

"A" creates 10,000 trading cards per each talent as token assets on NEM blockchain. Users have to obtain "A token" first to buy any trading cards from "A" or in the exchange market. Trading cards get added into the app as users collect them one by one. These cards can be swapped or transferred directly among users, or traded at LockCoin.

Users send those cards to the game app to play it, and playing rules are written in public smart contracts on Ethereum network. For token transfer between apps, LKC CORE converts NEM assets into Ethereum tokens. All the fees will be charged to users by "A" in "A token" to cover network fees. The game app also allows users to win trading cards from other users which automatically gets transferred into their app. These trading will be converted via LKC CORE.
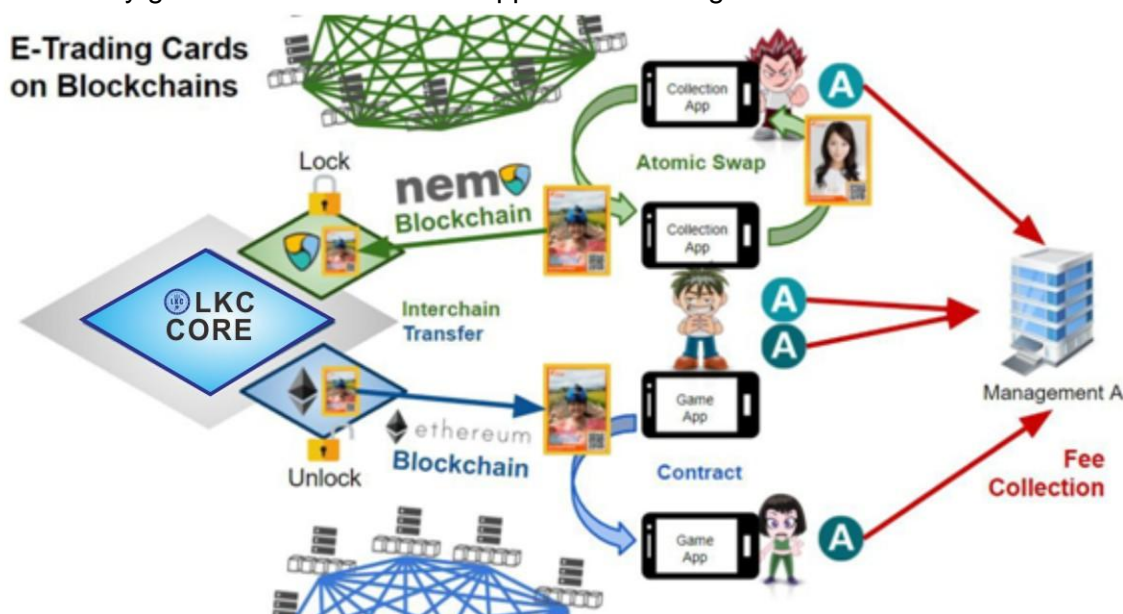
Instead of managing the inventory of trading cards using raw secret keys or some token devices, "A" builds an inventory management system with the mijin private ledger. Any transfer of newly issued tokens can be authorized only by a multi-sig sign-off between designated operators and the management team.

Asset information will be disclosed openly, and developers can create their own apps or web services to handle trading cards. "A" withholds all the copyrights of trading card images and can protect them from unauthorized commercial usages.

"A" allocates a portion of revenue from new card crowdsales and conversion fees to buy back and burn "A token".

Use Case - VR World Currency-

Virtual Reality is a novelty and is becoming a craze. At the same time it is undergoing a paradigm shift in its use and sophistication. New virtual reality games will need to have a dedicated currency for each game in the virtual economy. The Linden dollar for second life is one such example.

A Blockchain solution, especially if it is running on a private network where there is more control and flexibility, is very suitable for VR games, vis-à-vis public chains that may have other issues running it.

LKC is a well suited solution where currency tokens in the public blockchain can be integrated into the internal and private blockchain of the VR game using the mijin private blockchain. These ledgers will be synchronized and balanced using the LKC HUB.

This tightly coupled integration allows users to send and receive tokens from outside the VR realm to a specific user in the VR realm that is powered by the mijin private blockchain. Further, the currency can be in any denomination such as ICO issuer's token, Bitcoin, XEM, Ether, or even fiat currency pegged tokens.

This method of VR balance management now uses the blockchain to manage balances instead of a legacy database. Essentially the blockchain solution makes this more secure and efficient. The LKC offering also allows token transfers to be ubiquitous in a few more public blockchains, thus covering a wide market.

A private blockchain enables a much higher throughput in excess of one thousand transactions per second, hence enabling micro transactions in real-time in the VR environment. This allows for VR games to be run on a blockchain, while at the same time, allows for public blockchain tokens to be useable in the VR platform.

VR token balance cannot be changed and can easily be audited using the APIs in the mijin private blockchain. Hence fraud, and manipulation of token balances is full-proof in the blockchain environment.

This highly secure environment prevents a lot of fraud from happening and also allows for user peace of mind that they can send money or cryptocurrencies into the VR environment and be sure that their token balances will not be changed or manipulated.
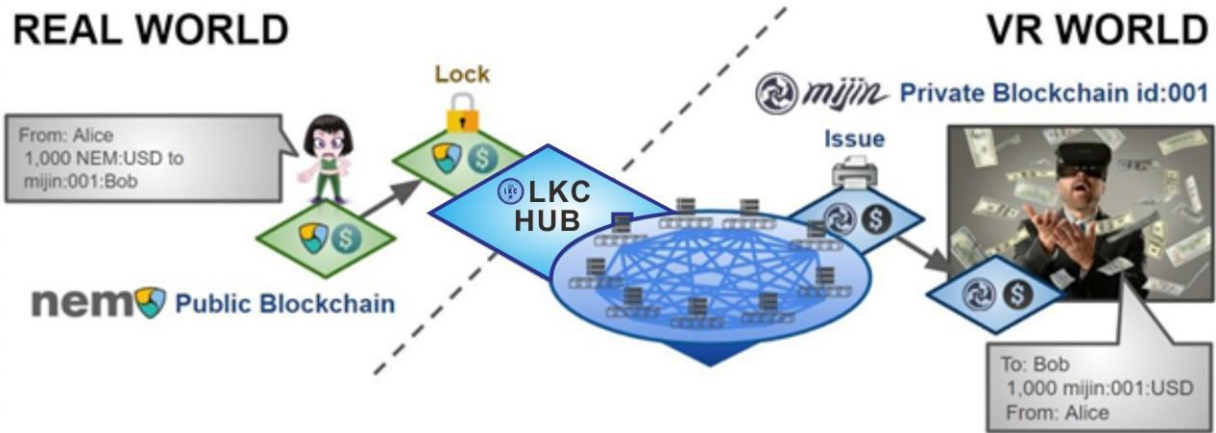
In the above example, LKC bridges Alice's NEM:USD (public blockchain) to Bob by way of sending an equivalent pegged amount of mijin.001:USD to Bob in the VR private chain, all made possible using the LKC solution.

Use Case - IoT Authentication & Ledger -

In a IoT era, we have to manage millions of devices and million account balances for monetary values exchanged among them.

Blockchain technology can be the best answer for IoT to manage them, and LKC solution would be most suitable.

Capacity problem always haunts us when talking about the public blockchain. There are several developing technologies such as sidechain or lightning network but LKC proposes a realistic solution utilizing private blockchain networks instead of an add-on layer technology.

An address generated by a device can be used among multiple mijin networks with the same address. LKC HUB lets multiple mijin networks talk to each other to sync and peg tokens, while at the same time its balance is kept consistent among these mjin networks and even on public blockchains such as Bitcoin, NEM, or Ethereum.

Any device can be authenticated using a multi-sig request on a private blockchains, that can handle high throughput transactions.

This allows devices to have their own monetary balances settled as micro transactions for their micro jobs they have done, and at a high throughput.

The ledger itself can reside inside or outside of devices. Without compromising the security, mijin let these devices interact with multiple private blockchains on the Internet.
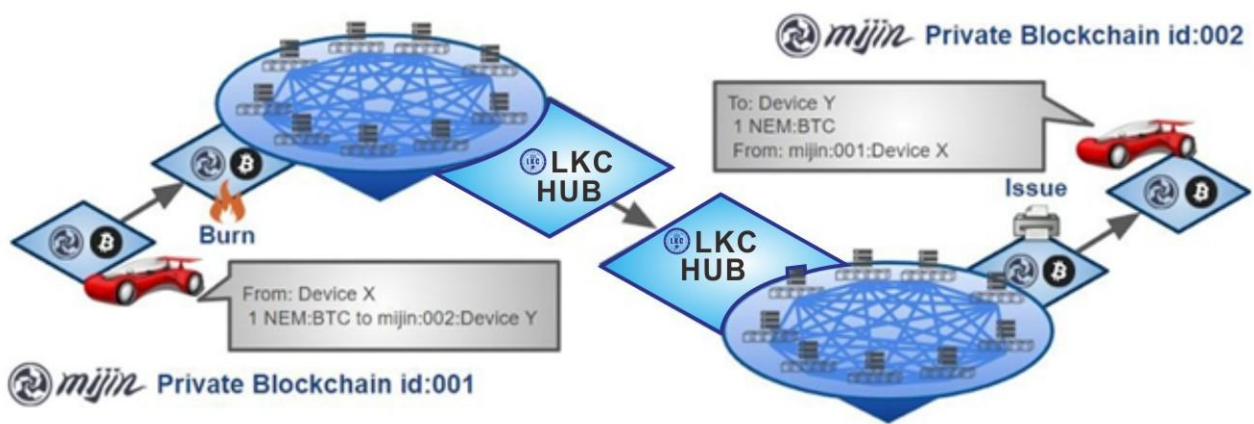
With LKC, now those devices can handle fiat pegged tokens or cryptocurrency pegged tokens directly. The owner of devices can control who can transfer the balance in the devices and to where, and even can deactivate them by removing its key from the device in case the device goes out of control. All these authentication and controls can be done using the native NEM protocol in a public blockchain or mijin private blockchain.

These mijin networks not only can handle value or money transfers, but they can also encrypted t messages embedded on transactions. For example, one can send an order to her car to update its firmware via Over-the-air, that can be opened only by the car itself and authorized by a multi-sig. All these messages or requests can be sent via the Internet instead of VPN.

Controlling IoT devices, and managing their ledgers are easier than ever with LKC solution.