BITCOIN LIGHTNING BANK

CASE STUDY

The Decentralized Strategy

October 2025

ABSTRACT

The Bitcoin Compound Annual Growth Rate (CAGR) was 76.93% over a 10-year timespan from January 1, 2015, to January 1, 2025. Institutions are investing into Bitcoin Exchange Traded Funds (ETFs) which shoulder all the Bitcoin volatility, while many corporations are implementing creative fund-raising initiatives referred to as "accretive dilution" to sell shares and purchase Bitcoin for their Bitcoin Treasury. In August 2020, MicroStrategy (now Strategy) made news headlines of their Bitcoin accumulation initiative. In recent years, many Bitcoin Treasury Companies have followed in Strategy's footsteps however they are all highly centralized entities that use traditional financial products in traditional markets. Bitcoin Lightning Banks have a substantial competitive advantage to the industry by integrating all borrowing and lending products into the Bitcoin Layer 2 Lightning Network, which offers an open, global, and instantaneous settlement layer to provide superior yield while receiving revenue generating service fees. This case study shines a light on the massive potential that a Bitcoin Lightning Bank has when fusing Bitcoin and innovative Lightning Network technologies with traditional markets to challenge the status quo. Additional research and development are required to prove the feasibility of a Lightning Bank; however, I believe that it is not out of reach for those willing to put in the effort and resources.
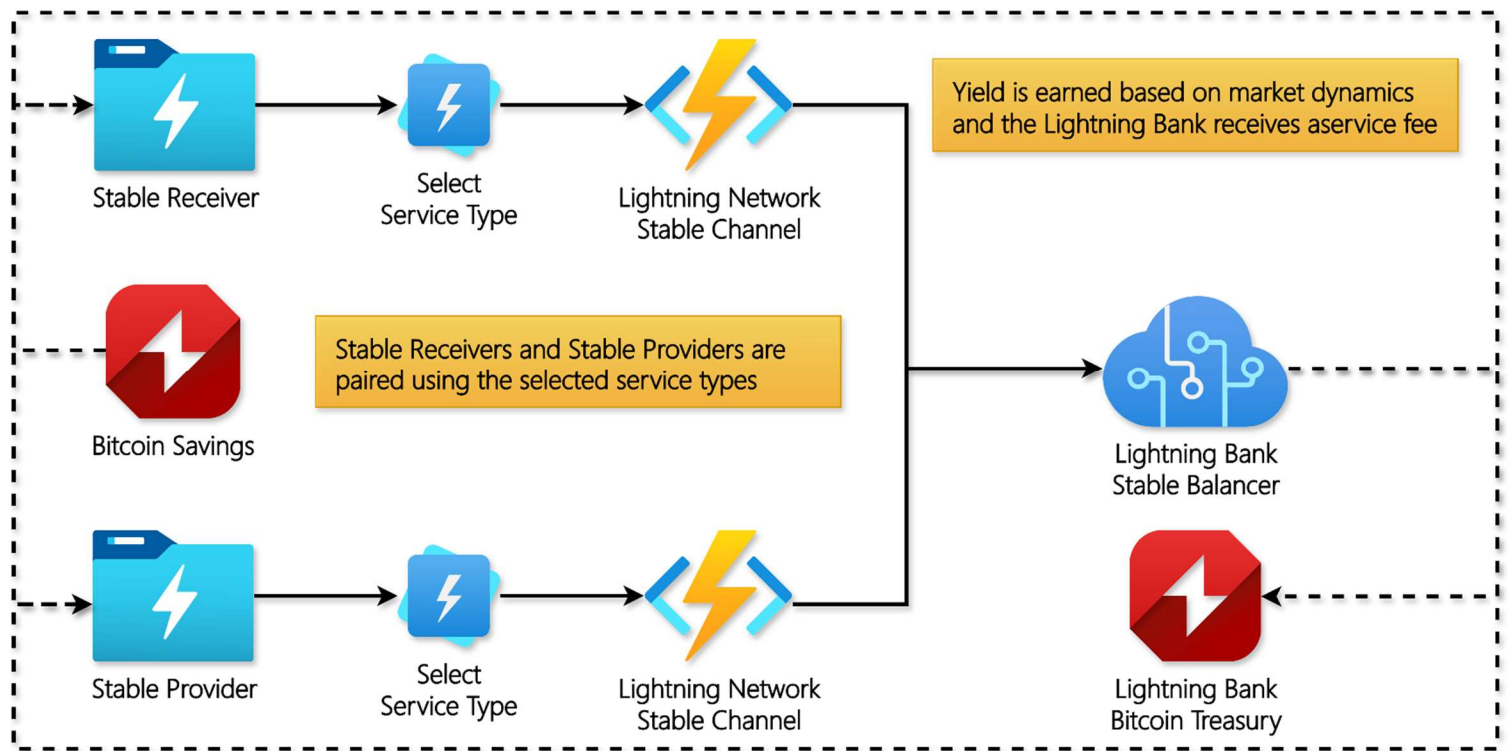
Kyle Hutchinson

Bitcoin Lightning Bank Overview and Features

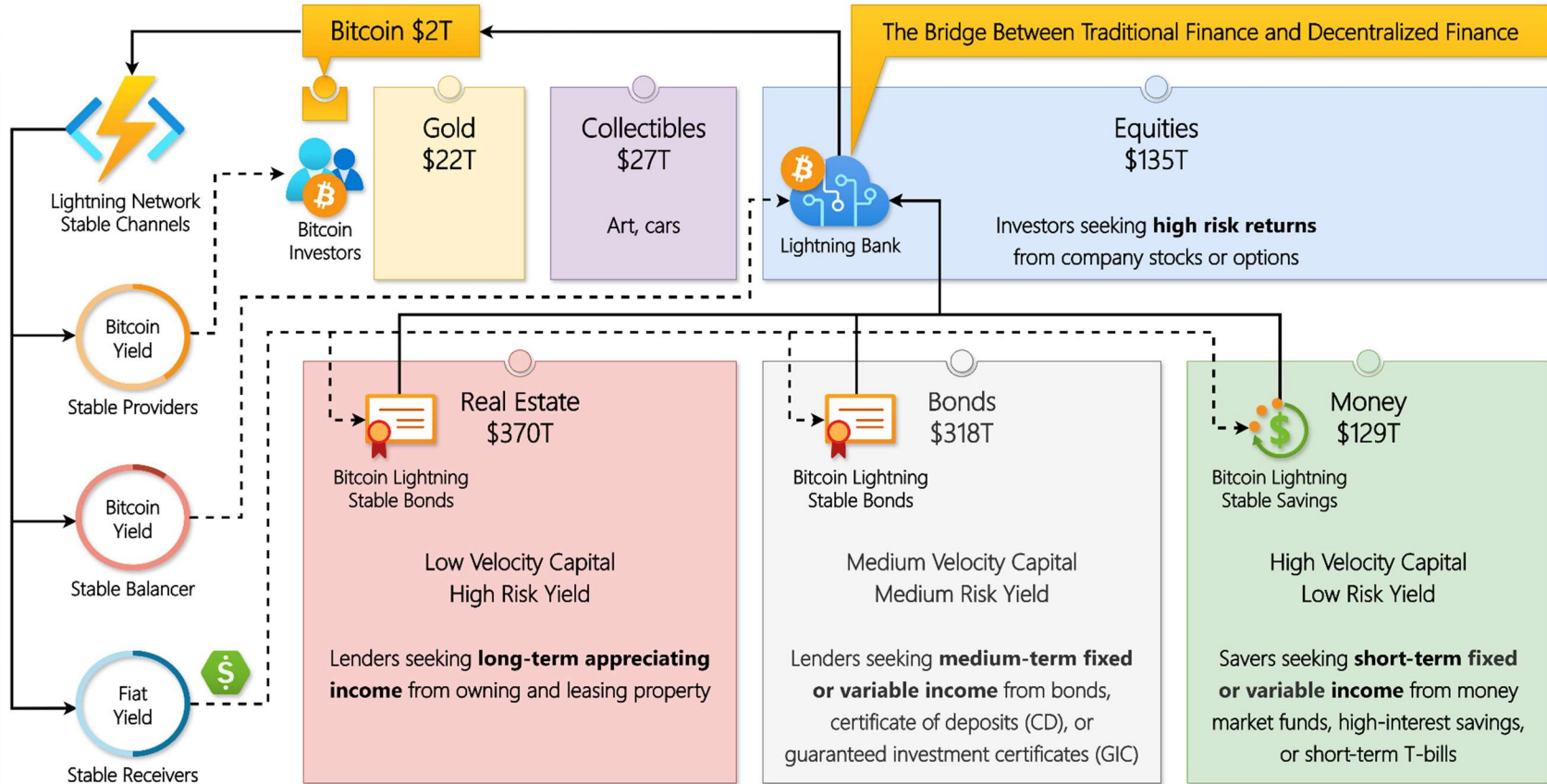**Stable Receivers are Fiat Investors that Buy Bitcoin with Fiat Price Stability to Earn Yield**

Stable Providers are Bitcoin Investors that 2X Long Bitcoin to Earn Yield

Stable Receiver → Select Service Type → Lightning Network Stable Channel

Bitcoin Savings

Stable Receivers and Stable Providers are paired using the selected service types

Stable Provider → Select Service Type → Lightning Network Stable Channel

Yield is earned based on market dynamics and the Lightning Bank receives a service fee

Lightning Bank Stable Balancer

Lightning Bank Bitcoin Treasury

Feature Comparison	Bitcoin Treasury Companies and Bitcoin Banks	Bitcoin Lightning Banks
Financial Products	Centralized Finance (CeFi)	Centralized and Decentralized Finance (CeFi & DeFi)
Financial Rails	Traditional	Traditional and the Bitcoin Lightning Network
Financial Management	Custodial	Custodial and non-custodial
Financial Markets	National market limitations	DeFi is globally accessible
Interest Rate Makers	Company	DeFi is an open and free market
Bitcoin Participants	Company	Bank, Fiat Investors, and Bitcoin Investors
Bitcoin Yield Distribution	**Concentration within Company**	**Distributed fairly between market participants**
Bitcoin Liquidation Risk	**Concentration within Company**	**Distributed between Stable Providers**
Bitcoin Liquidation Priority	**Bond holders are paid first**	**Bank is paid first by liquidated Stable Providers**
Bitcoin Service Fees	**None**	**Bitcoin-denominated liquidity service fees**
Bitcoin Strategy Tools	**Profit, Stock, Debt, and Bitcoin Treasury**	**Same + Bitcoin TVL to defend Bitcoin Treasury**
Bitcoin Total Value Locked Growth Rate	**CeFi = 1 Bitcoin buy adds 1 Bitcoin to BTC TVL** **500K BTC buys 500K BTC TVL in Custody**	**DeFi = 1 Bitcoin buy adds 2 Bitcoin to BTC TVL** **500K BTC buys 1M BTC TVL in Lightning Network**

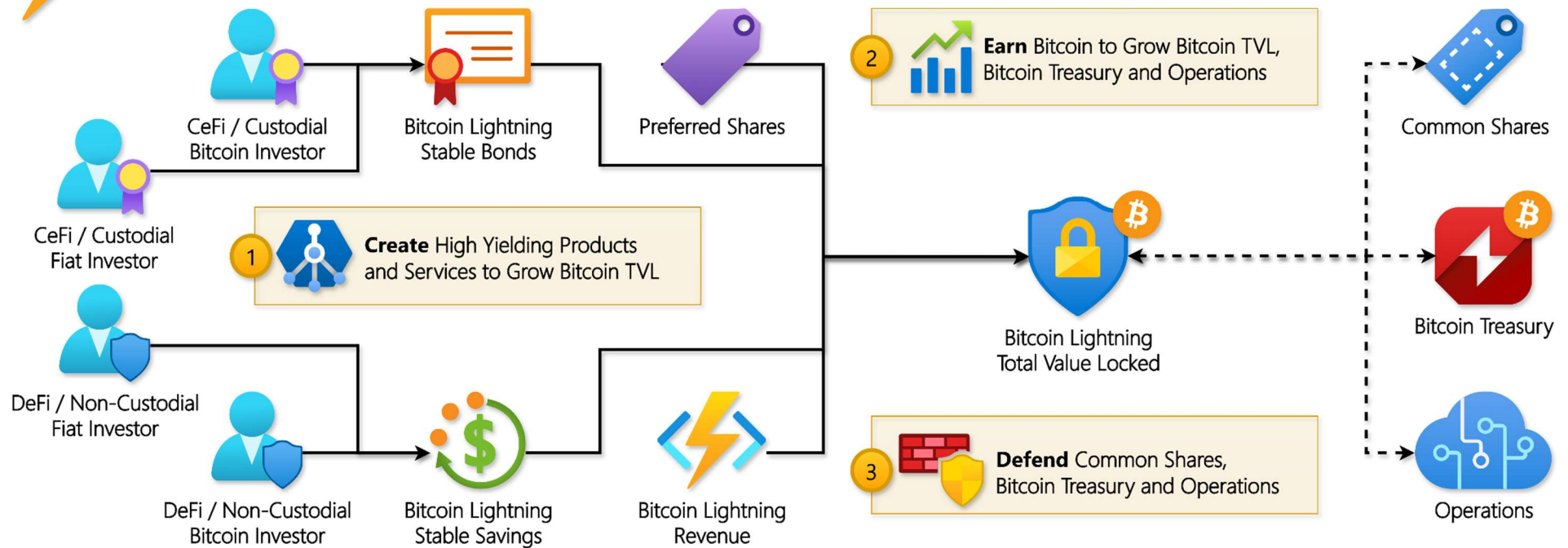| Bitcoin Lightning Stable Bonds	
Flexible Rates	Fixed or variable rates based on percentage of stable Fiat or Bitcoin CAGR
Tax-Deductible	Interest payments are tax-deductible bank expenditures
Securable	Bitcoin is stored in unique Stable Channels to extract yield
Callable or Puttable	Early redemption option based on Bitcoin Growth Yield performance
Extendible	If Bitcoin underperforms then the bond can optionally be extended
Non-Convertible	Share dilution is not necessary due to the superior yield

Bitcoin Lightning Bank Total Addressable Market

A Lightning Bank is a bridge betwen Traditional Finance and Decentralized Finance that embraces a global network of yield earning demand while contributing to the liquidity of the Lightning Network which facilitates the ongoing replacement of the incumbent payment network of Visa and MasterCard.

Lightning Network Stable Channels

- Bitcoin Investors
- Bitcoin Yield — Stable Providers
- Bitcoin Yield — Stable Balancer
- Fiat Yield — Stable Receivers

Bitcoin $2T

The Bridge Between Traditional Finance and Decentralized Finance

Gold $22T

Collectibles $27T
Art, cars

Lightning Bank

Equities $135T
Investors seeking **high risk returns** from company stocks or options

Real Estate $370T
Bitcoin Lightning Stable Bonds

Low Velocity Capital
High Risk Yield

Lenders seeking **long-term appreciating income** from owning and leasing property

Bonds $318T
Bitcoin Lightning Stable Bonds

Medium Velocity Capital
Medium Risk Yield

Lenders seeking **medium-term fixed or variable income** from bonds, certificate of deposits (CD), or guaranteed investment certificates (GIC)

Money $129T
Bitcoin Lightning Stable Savings

High Velocity Capital
Low Risk Yield

Savers seeking **short-term fixed or variable income** from money market funds, high-interest savings, or short-term T-bills

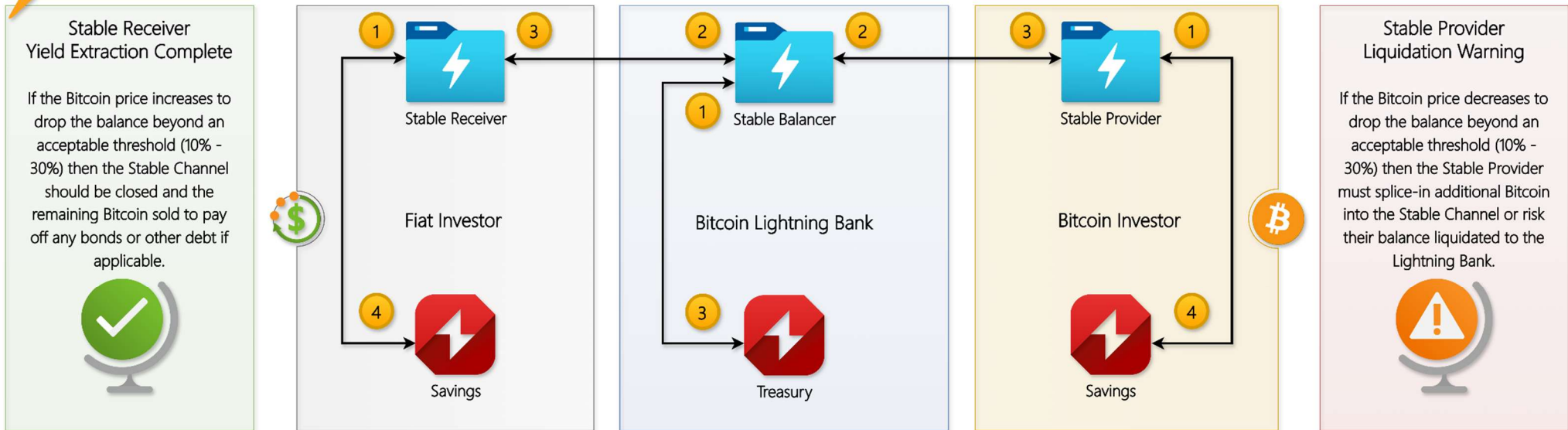| Use Cases		Centralized Finance (CeFi)	Decentralized Finance (DeFi)		
		Custodial	**Non-Custodial Stable Receiver**	**Non-Custodial Stable Provider**	**Non-Custodial**
Stable Channel	Stable Receiver	Lightning Bank	Fiat Investors	Lightning Bank	Fiat Investors
	Stable Provider	Lightning Bank	Lightning Bank	Bitcoin Investors	Bitcoin Investors
Lightning Bank	Goal	Store Bitcoin that was procured from liabilities (ex: bonds, preferred stock) into a Stable Receiver and/or Bitcoin Treasury into a Stable Provider then provide liquidity services to extract and distribute yield		Provide liquidity services to extract and distribute yield	
Fiat Investor	Goal	Purchase TradFi products to earn interest or dividends	Self-custody Bitcoin in Stable Channel for greater control	**Purchase TradFi products to earn interest or dividends**	**Self-custody Bitcoin in Stable Channel for greater control**
	Risk	Low	Low	**Low**	**Low**
	Reward	High	High	**Maximum**	**Maximum**
Bitcoin Investor	Goal	Send Bitcoin to Lightning Bank to manage the 2X Leverage Long Stable Channel while maintenance is required to avoid liquidation		**Self-custody Bitcoin in 2X Leverage Long Stable Channel while maintenance is required to avoid liquidation**	
	Risk	High	High	**High**	**High**
	Reward	High	High	**Maximum**	**Maximum**

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Bitcoin Lightning Bank - The Proof of Work Bitcoin Strategy

PoW Bitcoin Strategy	Create and Earn in Breadth	Defend in Depth
Bitcoin Lightning Stable Bonds	Bank sells bonds to Fiat or Bitcoin Investors then buys Bitcoin on their behalf and deposits into a custodial portion of a Lightning Network Stable Channel to grow Bitcoin Lightning TVL and earn yield	Mitigate risks by implementing market optimization techniques. If Bitcoin overperforms then the bank closes the Stable Channel and sells remaining Bitcoin to pay back the bond. If Bitcoin underperforms then the bank can either extend the bond or buy it out.
Bitcoin Lightning Stable Savings	Bank provides service for Fiat or Bitcoin Investors to deposit owned Bitcoin into a non-custodial portion of a Lightning Network Stable Channel to grow Bitcoin Lightning TVL and earn yield	Mitigate risks during Bitcoin drawdowns by ensuring Bitcoin Investors either top-up their positions or face liquidation to the Bank
Bitcoin Lightning Revenue	Bank receives Lightning Network service fees to grow Bitcoin Lightning TVL and earn yield as a Stable Balancer or Stable Provider	Mitigate risks by earning Bitcoin revenue from products and services
Bitcoin Lightning Total Value Locked	Bank enables custodial and non-custodial access to Lightning Network Stable Channels & Enterprise Channels to earn yield and grow Treasury or Operations	Mitigate risks during Bitcoin drawdowns by ensuring Bitcoin Investors either top-up their positions or face liquidation to the Bank
Preferred Shares	Bank sells Preferred Shares to buy Bitcoin and grow Bitcoin Lightning TVL and earn yield as a Stable Receiver	Mitigate risks by allocating revenue to Stable Receivers so that Bitcoin Yield covers dividend then shares bought back when channel closes
Common Shares	Bank sells Common Shares to buy Bitcoin and grow Treasury or Operations	**Share dilution is protected by above practices if done efficiently**
Bitcoin Treasury	Bank can deposit Bitcoin Treasury into the Bitcoin Lightning TVL to earn yield	**Treasury liquidation is protected by above practices if done efficiently**

Bitcoin Lightning Bank - Stable Channel Life Cycle

Stable Receiver Yield Extraction Complete

If the Bitcoin price increases to drop the balance beyond an acceptable threshold (10% - 30%) then the Stable Channel should be closed and the remaining Bitcoin sold to pay off any bonds or other debt if applicable.

Stable Receiver

Fiat Investor

Savings

Stable Balancer

Bitcoin Lightning Bank

Treasury

Stable Provider

Bitcoin Investor

Savings

Stable Provider Liquidation Warning

If the Bitcoin price decreases to drop the balance beyond an acceptable threshold (10% - 30%) then the Stable Provider must splice-in additional Bitcoin into the Stable Channel or risk their balance liquidated to the Lightning Bank.
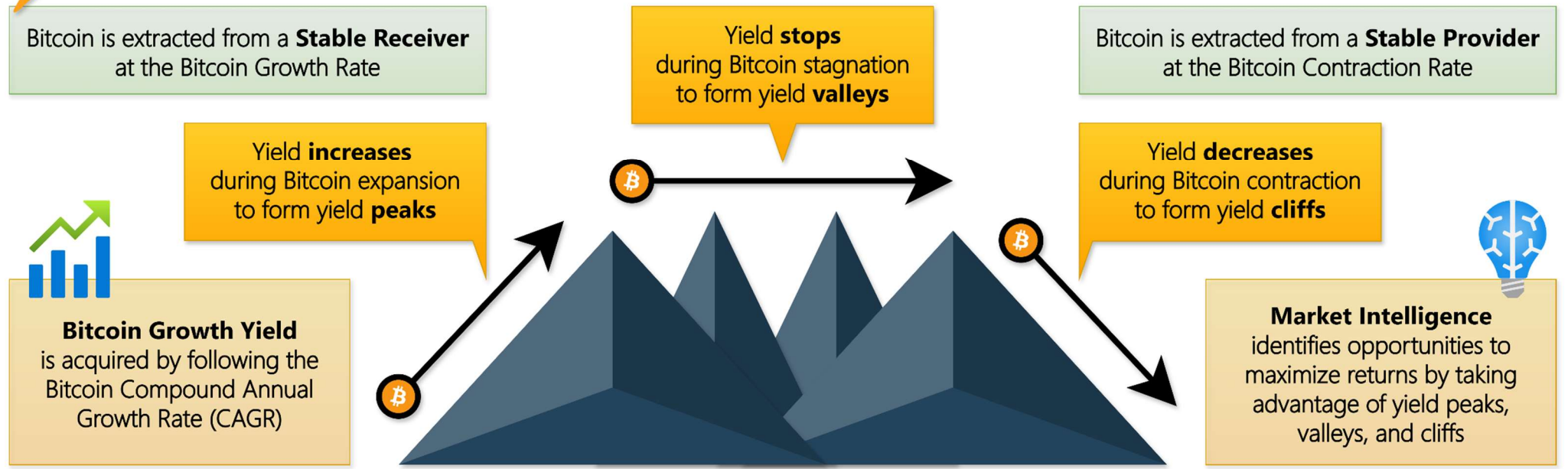
The Lightning Bank Stable Balancer is an intelligent automated market maker (AMM) that maintains a liquidity pool to splice in and out of the Lightning Channels between a Stable Receiver and Stable Provider so that the Stable Receiver has a guaranteed stable Fiat balance backed by Bitcoin.

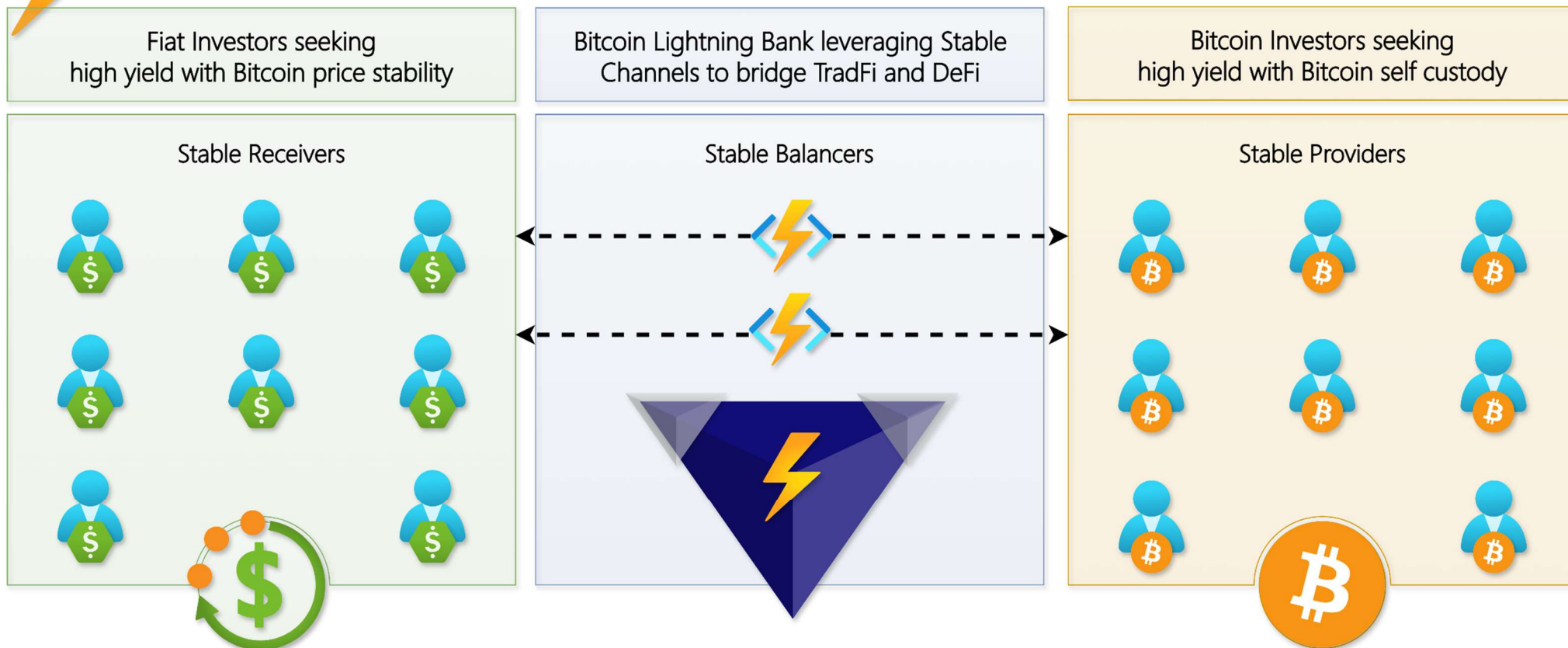| Stable Channel Life Cycle		Description
1	Start or Splice-In Stable Channel	Stable Receiver, Stable Balancer, and Stable Provider add Bitcoin into the Lightning Channel to either initiate the connection or keep it active and just splice-in liquidity.
2	Upon Bitcoin Price Movement, Send Bitcoin to Stable Balancer	If the Bitcoin price increases, then the Stable Receiver sends Bitcoin to the Stable Balancer. If the Bitcoin price decreases, then the Stable Provider sends Bitcoin to the Stable Balancer.
3	Rebalance Stable Receiver and Stable Provider then Distribute Bitcoin Yield	Stable Balancer periodically sends Bitcoin to the Stable Receiver to ensure a stable Fiat balance, sends Bitcoin to the Stable Provider to ensure a stable Bitcoin balance, and distributes the remaining Bitcoin Yield to all participants based on the pre-defined yield allocation agreements.
4	Close or Splice-Out Stable Channel	Stable Receiver and Stable Provider remove Bitcoin from the Lightning Channel to either close the connection or keep it active and just splice-out liquidity.

Bitcoin Lightning Bank - Bitcoin Growth Yield and Market Intelligence

Bitcoin is extracted from a **Stable Receiver** at the Bitcoin Growth Rate

Yield **stops** during Bitcoin stagnation to form yield **valleys**

Bitcoin is extracted from a **Stable Provider** at the Bitcoin Contraction Rate

Yield **increases** during Bitcoin expansion to form yield **peaks**

Yield **decreases** during Bitcoin contraction to form yield **cliffs**

Bitcoin Growth Yield is acquired by following the Bitcoin Compound Annual Growth Rate (CAGR)

Market Intelligence identifies opportunities to maximize returns by taking advantage of yield peaks, valleys, and cliffs

Bitcoin Growth Yield Scenario		Market Intelligence Strategy
Yield Peak	Yield increases during Bitcoin expansion	When the Bitcoin price rises to reach a yield threshold it is ideal to close the Stable Channel, sell the remaining Bitcoin, and then call the bond back for repayment. Afterward, new bonds can be issued with the yield to extract and duration terms reset. When the bank sells the remaining Bitcoin during market overperformance it frees liquidity so that it can issue new bonds then purchase Bitcoin again later during market underperformance thereby maximizing returns that leverages the Bitcoin volatility.
Yield Valley	Yield stops during Bitcoin stagnation	When the Bitcoin price stagnates then the yield is dynamically reduced or stopped entirely. If the yield returns have been underwhelming throughout an entire bond lifespan, then the bond can be extended to capitalize on future positive Bitcoin price movements or hedged with a put option to sell back the bond to the Bank. In addition, Stable Providers can offer a fixed interest rate to Stable Receivers so that the yield is immune to Bitcoin price stagnation to entice more investors.
Yield Cliff	Yield decreases during Bitcoin contraction	When the Bitcoin price decreases then any yield not yet distributed is given back to the Stable Receiver as well as Bitcoin is transferred from the Stable Provider to the Stable Receiver to make their fiat balance whole. When the Bitcoin rises again then Bitcoin is sent back to the Stable Provider to make their Bitcoin balance whole. If Bitcoin experiences a significant drawdown and a balance threshold is reached, then the Stable Provider must top-up their balance or risk liquidating their entire position to the Bank. If liquidated, the bank will take all of the profit once Bitcoin recovers and can choose to distribute extra yield to bond holders to compensate for the lack of Bitcoin yield.

Bitcoin Lightning Bank - The Decentralized Strategy

Fiat Investors seeking high yield with Bitcoin price stability	Bitcoin Lightning Bank leveraging Stable Channels to bridge TradFi and DeFi	Bitcoin Investors seeking high yield with Bitcoin self custody
Stable Receivers	**Stable Balancers**	**Stable Providers**

The Decentralized Strategy	Lightning Channel Role
Fiat Investor	Stable Receiver holds a Bitcoin balance and remains stable in fiat terms. Centralized / Custodial products such as **Bitcoin Lightning Stable Bonds** or **Preferred Shares** are purchased or Decentralized / Non-Custodial services such as **Bitcoin Lightning Stable Savings** are used.
Lightning Bank	Stable Balancer holds a Bitcoin balance and provides stability mechanisms to ensure both participants have the proper balance while distributing yield based on pre-defined yield allocations.
Bitcoin Investor	Stable Provider holds a Bitcoin balance and remains stable in Bitcoin terms. Decentralized / Non-Custodial services such as **Bitcoin Lightning Stable Savings** are used.

Bitcoin Lightning Stable Bonds

Fiat Investor

CeFi

- Stable USD balance backed by Bitcoin in custody

- Secured over collateralization by a decentralized network of Bitcoin Stable Providers in Lightning Network Channels

- Flexible duration market intelligence features that supports callable, puttable, and extendable actions based on Bitcoin growth yield

- Flexible interest rates that supports fixed set by Stable Providers or variable based on Bitcoin Compound Annual Growth Rate

- Flexible interest payment frequency of monthly, quarterly, semi-annually, or end of maturity annually compounded

Bitcoin Lightning Stable Preferred Shares

Fiat Investor

CeFi

- Stable USD balance backed by Bitcoin in custody

- Secured over collateralization by a decentralized network of Bitcoin Stable Providers in Lightning Network Channels

- Flexible duration since shares can be purchased or sold in the market as you see fit

- Flexible dividend rates that supports fixed set by Stable Providers or variable based on Bitcoin Compound Annual Growth Rate

- Monthly dividend payments

Bitcoin Lightning Stable Savings (USD)

Fiat Investor

DeFi

- Stable USD balance backed by Bitcoin in self custody

- Secured over collateralization by a decentralized network of Bitcoin Stable Providers in Lightning Network Channels

- Flexible duration self custody features allows you to deposit or withdraw as you see fit

- Flexible interest rates that supports fixed set by Stable Providers or variable based on Bitcoin Compound Annual Growth Rate

- Flexible interest payment frequency of monthly, quarterly, semi-annually, or end of maturity annually compounded

- Lightning Bank SDK for functionality integration into popular Lightning Wallets

Bitcoin Lightning Stable Savings (BTC)

Bitcoin Investor

DeFi

- Stable BTC balance in self custody

- Secured over collateralization by a decentralized network of Bitcoin Stable Receivers in Lightning Network Channels

- Flexible duration self custody features allows you to deposit or withdraw as you see fit

- Flexible interest rates that supports fixed set by Stable Providers or variable based on Bitcoin Compound Annual Growth Rate

- Flexible interest payment frequency of monthly, quarterly, semi-annually, or end of maturity annually compounded

- Lightning Bank SDK for functionality integration into popular Lightning Wallets

Lightning Bank Service Tiers	Tier	Fee	Description	Service
Fiat Investor	Standard	10%	Enterprise-grade Lightning Network Stable & Routing Channel liquidity services that provide efficient USD principal balance stability coupled with high-yielding USD interest payments	Standard Fixed
				Standard Variable
	Premium	20%	Standard plus ultra-high yielding USD interest payments generated by locking funds and compounding Bitcoin over the duration of the lock	Premium Fixed
				Premium Variable
Bitcoin Investor	Standard	10%	Enterprise-grade Lightning Network Stable & Routing Channel liquidity services that provide efficient BTC principal balance stability coupled with high-yielding BTC interest payments. Obligations paid and yield received monthly	Standard Fixed
				Standard Variable
	Premium	20%	Standard plus liquidation protection	Premium Fixed
				Premium Variable

Lightning Bank Annual Rates - Estimated 5 Year Average from 20% to 40% Bitcoin Compound Annual Growth Rate and 1% Bitcoin Annual Transaction Income

Fiat Investor – Stable Receiver			Bitcoin Investor – Stable Provider			Lightning Bank – Stable Balancer	
Service	Payment Frequency	Annual Rate (USD)	Service	Payment Frequency	Annual Rate (BTC)	Service Fee	Annual Rate (BTC)
Standard Fixed	Monthly	15%	Standard Fixed	Monthly	3.59% to 8.52%	20%	2.79% to 3.66%
			Premium Fixed	Monthly	2.00% to 6.49%	30%	4.19% to 5.48%
Standard Variable	Semi-annually or quarterly	10.61% to 20.76%	Standard Variable	Monthly	4.89% to 6.40%	20%	2.79% to 3.66%
			Premium Variable	Monthly	3.49% to 4.57%	30%	4.19% to 5.48%
Premium Fixed	5 Year Maturity Date (Compounded)	16.37% to 24.08%	Standard Fixed	Monthly	3.59% to 8.52%	30%	4.19% to 5.48%
			Premium Fixed	Monthly	2.00% to 6.49%	40%	5.58% to 7.31%
Premium Variable	5 Year Maturity Date (Compounded)	12.16% to 34.41%	Standard Variable	Monthly	4.89% to 6.40%	30%	4.19% to 5.48%
			Premium Variable	Monthly	3.49% to 4.57%	40%	5.58% to 7.31%

Annual Bitcoin Growth Yield Summary Estimates - 5 Year Average						Bitcoin Compound Annual Growth Rate Scenarios with Bitcoin Annual Transaction Income = 1%		
Participant	Role	Unit	Payment Frequency	Service	Yield Allocation	20%	30%	40%
Fiat Investor	Stable Receiver	Fiat	Monthly	Standard Fixed	65%, 50%, 37.5% - TX	15%	15%	15%
			Semi-annually or quarterly	Standard Variable	45%	10.61%	15.62%	20.76%
			5 Year Maturity Date (Compounded)	**Premium Fixed**	**55%, 40%, 27.5% - TX**	**16.37%**	**21.70%**	**24.08%**
				Premium Variable	**35%**	**12.16%**	**21.59%**	**34.41%**
Bitcoin Investor	Stable Provider	BTC	Monthly	Standard Fixed	15%, 30%, 42.5% + TX	3.59%	5.98%	8.52%
				Standard Variable	35%	4.89%	5.81%	6.40%
				Premium Fixed	**5%, 20%, 32.5% + TX**	**2.00%**	**4.12%**	**6.49%**
				Premium Variable	**25%**	**3.49%**	**4.15%**	**4.57%**
Lightning Bank	Stable Balancer	BTC	Monthly		20%	2.79%	3.32%	3.66%
					30%	**4.19%**	**4.98%**	**5.48%**
					40%	**5.58%**	**6.65%**	**7.31%**

Annual Bitcoin Growth Yield Burndown Estimates

						20%	30%	40%
Bitcoin Yield Remaining					Year 1	83.33%	76.92%	71.43%
					Year 3	57.87%	45.52%	36.44%
* Indicates remaining yield to be extracted from Stable Receiver					**Year 5**	**40.19%**	**26.93%**	**18.59%**
* Highlighted Percentages indicate when majority of the yield has been extracted for an exit then obtain more Fiat liquidity to purchase additional Bitcoin					Year 7	27.91%	15.94%	9.49%
					Year 10	16.15%	7.25%	3.46%

Lightning Bank 5 Year Bitcoin Growth Yield Estimates

Total Value Locked	Forward Metric	Yield Allocation	Bitcoin Compound Annual Growth Rate Scenarios with Bitcoin Annual Transaction Income = 1%		
			20%	30%	40%
20K BTC	Bitcoin Earnings Annual Average	20%	243	296	330
		30%	365	444	494
		40%	486	598	659
	Bitcoin Assets Cumulative Total	20%	1,216	1,481	1,648
		30%	1,824	2,222	2,472
		40%	2,432	2,963	3,296
400K BTC	Bitcoin Earnings Annual Average	20%	4,865	5,925	6,593
		30%	7,297	8,888	9,889
		40%	9,730	11,851	13,185
	Bitcoin Assets Cumulative Total	20%	24,325	29,627	32,963
		30%	36,487	44,440	49,444
		40%	48,650	59,254	65,925
1M BTC	Bitcoin Earnings Annual Average	20%	12,162	14,813	16,481
		30%	18,244	22,220	24,722
		40%	24,325	29,627	32,963
	Bitcoin Assets Cumulative Total	20%	60,812	74,067	82,407
		30%	91,218	111,101	123,610
		40%	121,624	148,134	164,813
2.1M BTC	Bitcoin Earnings Annual Average	20%	25,541	31,108	34,611
		30%	38,312	46,662	51,916
		40%	51,082	62,216	69,222
	Bitcoin Assets Cumulative Total	20%	127,706	155,541	173,054
		30%	191,559	233,311	259,581
		40%	255,411	311,082	346,108

The goal is to offer the highest interest Bitcoin-backed products and services on the market to generate demand and build the world's largest decentralized Bitcoin Total Value Locked (TVL) located in Lightning Network channels that dual serve as routing nodes to provide more liquidity and scalability to the Lightning Network.

The pathway to 2.1 million Bitcoin TVL on the Lightning Network has never been clearer.