



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.

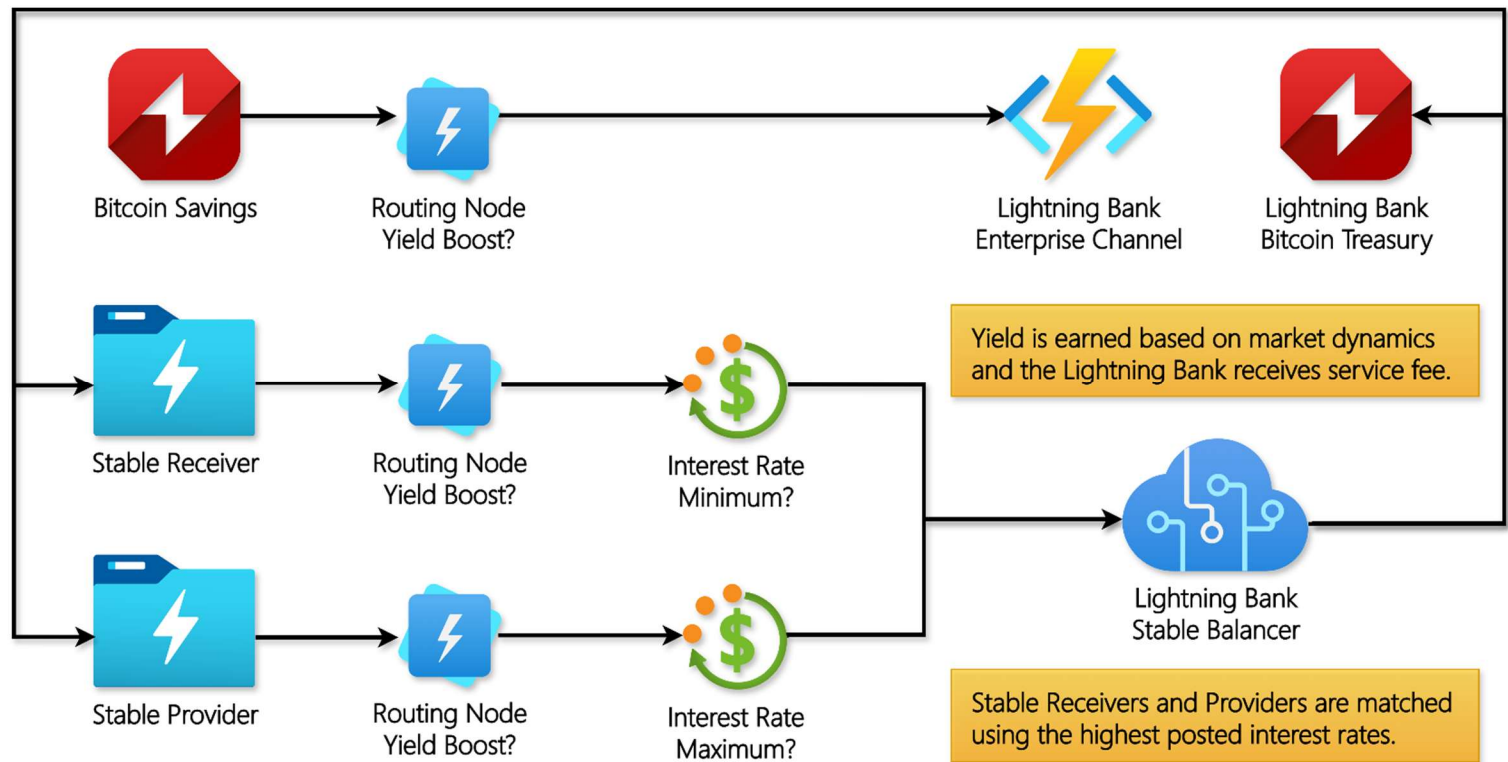
Kyle Hutchinson



Bitcoin Lightning Bank Overview and Features

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

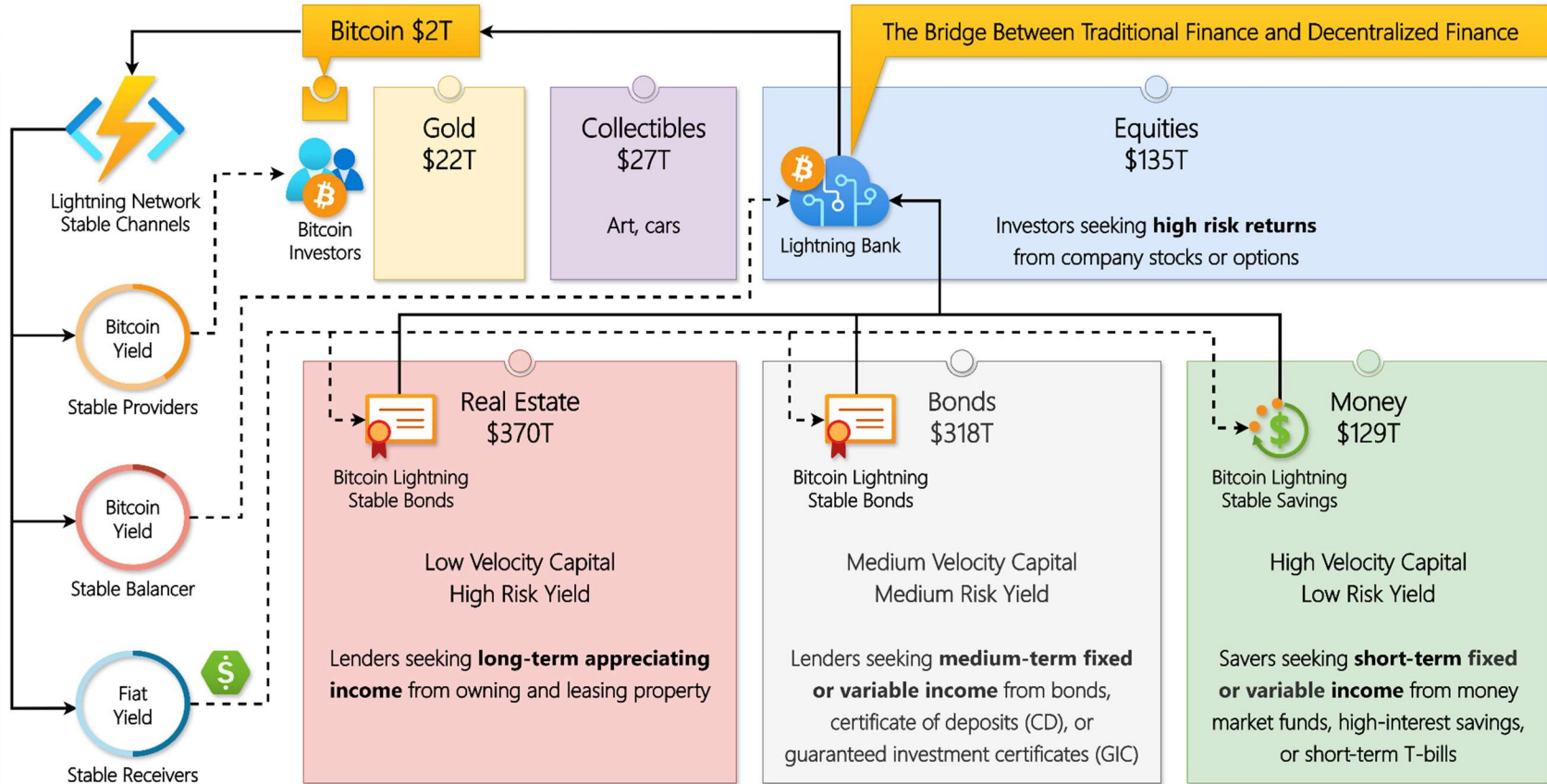
Stable Providers are Bitcoin Investors that 2X Long Bitcoin to Earn Yield



Feature Comparison	Bitcoin Treasury Companies and Bitcoin Banks	Bitcoin Lightning Banks	Bitcoin Lightning Stable Bonds	
Financial Products	Centralized Finance (CeFi)	Centralized and Decentralized Finance (CeFi & DeFi)	Flexible Rates	Fixed or variable rates based on percentage of stable Fiat or Bitcoin CAGR
Financial Rails	Traditional	Traditional and the Bitcoin Lightning Network		
Financial Management	Custodial	Custodial and non-custodial	Tax-Deductible	Interest payments are tax-deductible bank expenditures
Financial Markets	National market limitations	DeFi is globally accessible		
Interest Rate Makers	Company	DeFi is an open and free market	Securable	Bitcoin is stored in unique Stable Channels to extract yield
Bitcoin Participants	Company	Bank, Fiat Investors, and Bitcoin Investors		
Bitcoin Yield Distribution	Concentration within Company	Distributed fairly between market participants	Callable or Puttable	Early redemption option based on Bitcoin Growth Yield performance
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	Extendible	If Bitcoin underperforms then the bond can optionally be extended
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	Non-Convertible	Share dilution is not necessary due to the superior yield
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 Bank
Total Addressable Market

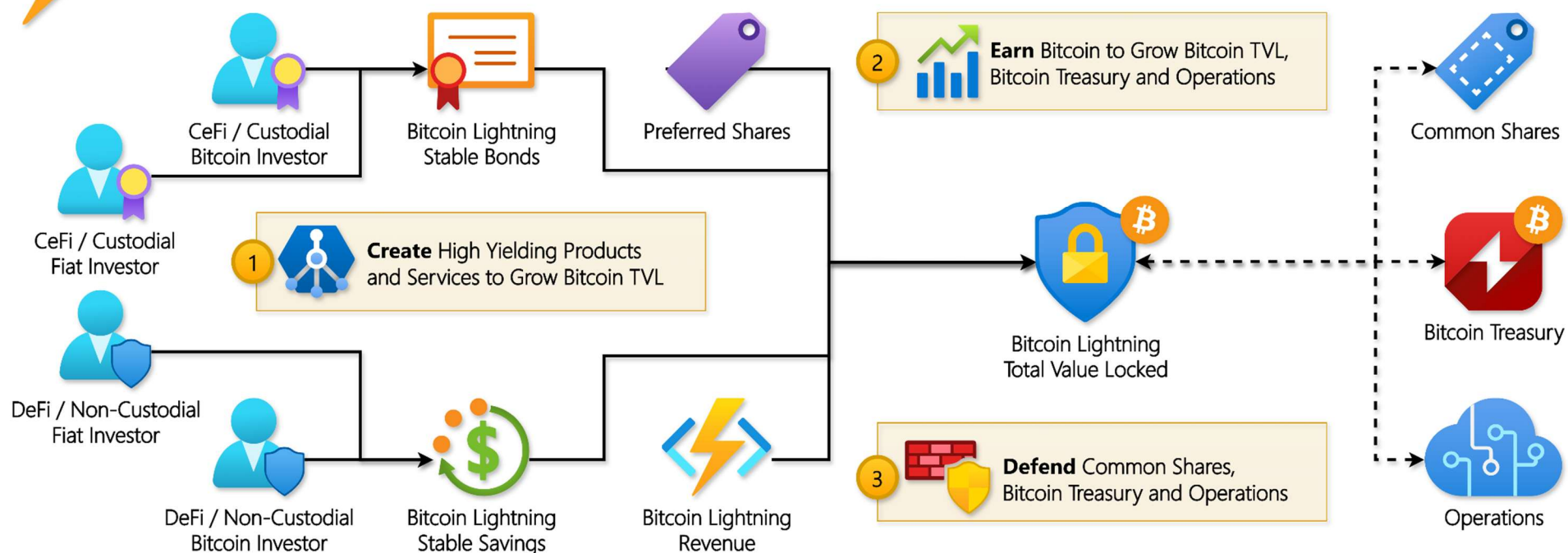
A Lightning Bank is a bridge between Traditional Finance and Decentralized Finance that embraces a global network of yield earning demand while contributing to the liquidity of the Lightning Network which facilitates the ongoing replacement of the incumbent payment network of Visa and MasterCard.



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



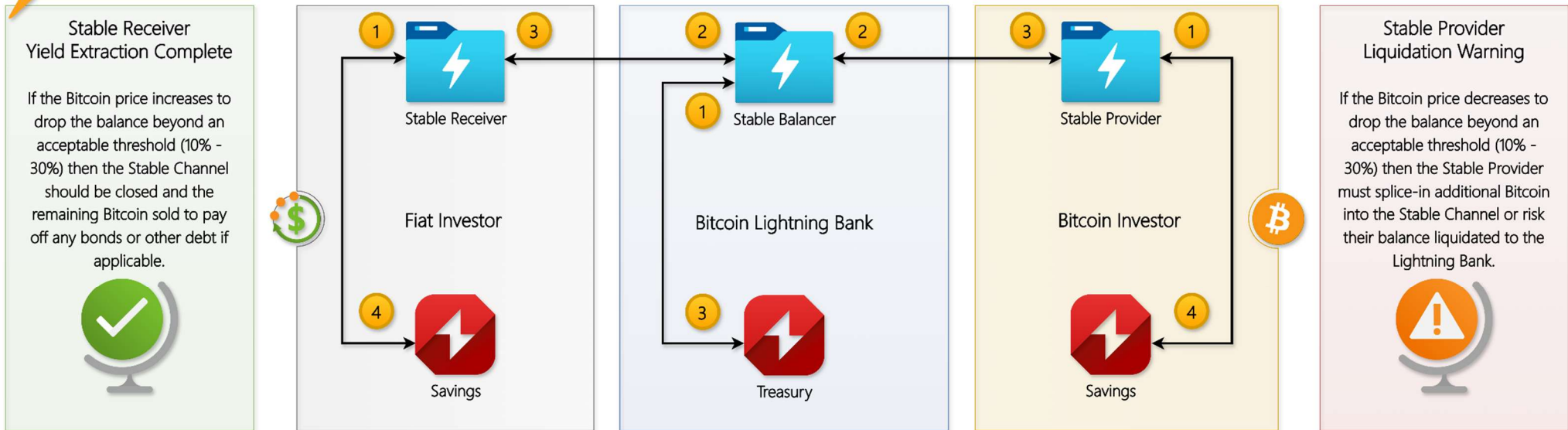
Bitcoin Lightning Bank - The Proof of Work Bitcoin Strategy



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

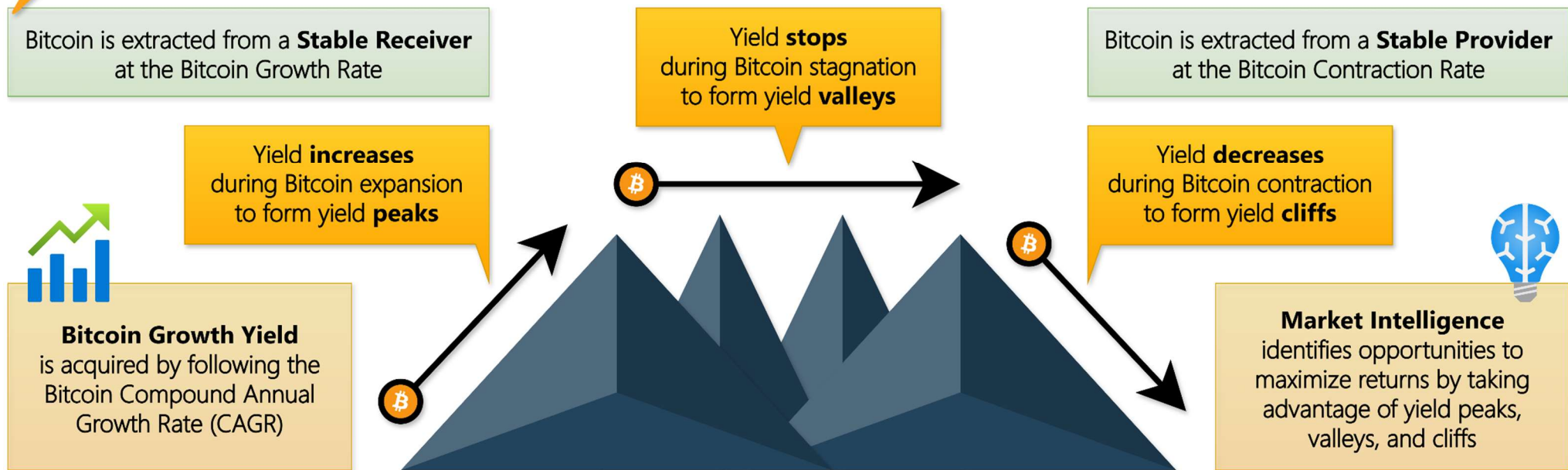


The Lightning Bank Stable Balancer is an intelligent automated market maker (AMM) that maintains a liquidity pool to splice in and out of the Lightning Channels between a Stable Receiver and Stable Provider so that the Stable Receiver has a guaranteed stable Fiat balance backed by Bitcoin.

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.



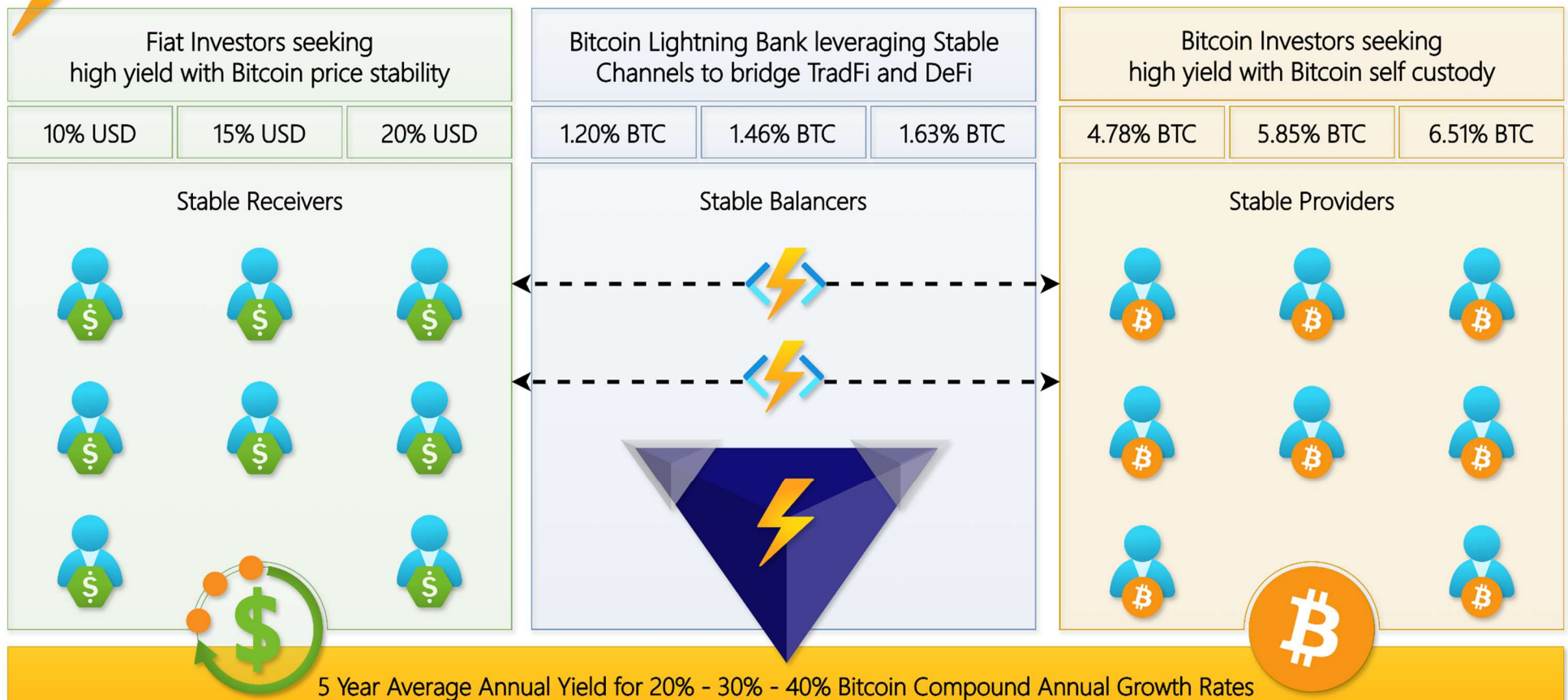
Bitcoin Lightning Bank - Bitcoin Growth Yield and Market Intelligence



Bitcoin 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



Yield boosts can also be applied to maximize yield earnings by acting as routing nodes and collecting additional yield

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 Bank - Financial Products

Fiat Investor

Bitcoin Lightning Stable Bonds



CeFi

- Stable USD balance backed by Bitcoin in custody
- Secured over collateralization by 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, annually, or end of maturity annual compounded.

Fiat Investor

Bitcoin Investor

Bitcoin Lightning Stable Savings



DeFi

- Self custody stable USD balance backed by Bitcoin or Bitcoin balance providing the stability
- Secured over collateralization by 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, annually, or end of maturity annual compounded.
- Lightning Bank SDK for functionality integration into popular Lightning Wallets

Fiat Investor

Bitcoin Lightning Stable Preferred Shares



CeFi

- Stable USD balance backed by Bitcoin in custody
- Secured over collateralization by Bitcoin Stable Providers in Lightning Network Channels
- Flexible duration since shares can be purchased or sold in the market as you see fit
- Fixed dividend rate paid monthly by a decentralized network of Stable Providers

Annual Bitcoin Growth Yield Estimates



* Annual Lightning Routing Yield not included but can be added to boost yield

Participant	Service Type	20% BTC CAGR	30% BTC CAGR	40% BTC CAGR
Fiat Investor	Basic Variable	10%	15%	20%
	Premium Variable	11.91%	21.70%	35.03%
Bitcoin Investor	Basic Fixed Obligation	1.79%	5.85%	8.55%
	Basic Variable Obligation	4.78%	5.85%	6.51%

Bitcoin Lightning Bank Revenue Streams

Stream	Short Name	Source	Description
Bitcoin Growth Yield	BiGY	Service Fee – Basic 10%	Lightning Network enterprise stable channel base services that pair Stable Receivers with Stable Providers for yield extraction.
			Stable Receiver – Compounded High-Yielding Interest Facilitates compounding interest for higher yields and distributes it at the end of the bond maturity date.
		Service Fee – Premium 20%	Stable Provider – Bitcoin Drawdown Liquidation Protection Protects against liquidating the position in the event of a Bitcoin drawdown which occurs when the balance decreases beyond an acceptable stability threshold. This feature does not provide Fixed Obligation Overdraft Liquidation Protection so the Stable Provider will still be liquidated in the event an interest payment causes the balance to go beyond an acceptable stability threshold.
			Stable Provider – Fixed Obligation Overdraft and Bitcoin Drawdown Liquidation Protection The ultimate passive investment experience providing complete protection against position liquidation in the event of either Fixed Obligation Overdrafts or Bitcoin Drawdowns which would normally occur when the balance decreases beyond an acceptable stability threshold. The luxury service provides risk-free protection but at the highest cost in fees to the bank because the bank takes on most of the risk.
		Stable Provider Liquidation	When the Stable Provider fails to maintain their balance above an acceptable stability threshold during Bitcoin drawdowns or when fulfilling fixed obligations then the entire position is liquidated to the bank which takes on the burden of providing price stability to the Stable Receiver.
		Stable Provider	The bank can participate as a Stable Provider to earn yield by going 2X long on a portion of its Bitcoin Treasury. This allows the bank to leverage its Bitcoin using its own services without entrusting it with third parties.
Bitcoin Transaction Yield	BiTY	Service Fee	Lightning Network routing fees applied to Bitcoin transactions
Bitcoin Liquidity Yield	BiLY	Service Fee	Lightning Network liquidity leasing fees applied to entities requiring temporary liquidity being relocated to other payment channels to facilitate transactions
Bitcoin Futures Yield	BiFY	Product Fee	The bank can sell options for its stock to allow the convertibility of Bitcoin into common shares if the stock price overperforms Bitcoin by specific dates

Annual Bitcoin Growth Yield Summary Estimates - 5 Year Average							Bitcoin Compound Annual Growth Rate Scenarios		
Participant	Role	Unit	Payment Frequency	Service Type	Rate	Yield Allocation	20%	30%	40%
Fiat Investor	Stable Receiver	Fiat	Semi-Annually, Quarterly, Monthly	Basic	Fixed	75% to 37.5%	15%	15%	15%
					Variable	50%	10%	15%	20%
			Compounded at Bond Maturity Date	Premium	Fixed	65% to 27.5%	19.35%	21.70%	24.08%
					Variable	40%	11.91%	21.70%	35.03%
Bitcoin Investor	Stable Provider	BTC	Semi-Annually, Quarterly, Monthly	Basic	Fixed Obligation	15% to 52.5%	1.79%	5.85%	8.55%
					Variable Obligation	40%	4.78%	5.85%	6.51%
				Premium	Fixed Obligation	5% to 42.5%	0.60%	4.38%	6.92%
					Variable Obligation	30%	3.59%	4.38%	4.88%
				Luxury	Fixed Obligation	-5% to 32.5%	-0.60%	2.92%	5.29%
Lightning Bank	Stable Balancer	BTC	Semi-Annually, Quarterly, Monthly	Basic	10%	1.20%	1.46%	1.63%	
				Premium	20%	2.39%	2.92%	3.26%	
				Luxury	30%	3.59%	4.38%	4.88%	
Annual Bitcoin Growth Yield Burndown Estimates									
<div>Bitcoin Yield Remaining</div> <div>* Indicates remaining yield to be extracted from Stable Receiver</div> <div>* Highlighted Percentages indicate when majority of the yield has been extracted for an exit then obtain more Fiat liquidity to purchase additional Bitcoin</div>						Year 1	83.33%	76.92%	71.43%
						Year 3	57.87%	45.52%	36.44%
						Year 5	40.19%	26.93%	18.59%
						Year 7	27.91%	15.94%	9.49%
						Year 10	16.15%	7.25%	3.46%

Lightning Bank 5 Year Bitcoin Growth Yield Estimates			Bitcoin Compound Annual Growth Rate Scenarios		
Total Value Locked	Forward Metric	Service Type	20%	30%	40%
20K BTC	Bitcoin Earnings Annual Average	Basic	120	146	163
		Premium	239	292	326
		Luxury	359	438	488
	Bitcoin Assets Cumulative Total	Basic	598	731	814
		Premium	1,196	1,461	1,628
		Luxury	1,794	2,192	2,442
400K BTC	Bitcoin Earnings Annual Average	Basic	2,392	2,923	3,256
		Premium	4,785	5,845	6,513
		Luxury	7,177	8,768	9,769
	Bitcoin Assets Cumulative Total	Basic	11,962	14,613	16,281
		Premium	23,925	29,227	32,563
		Luxury	35,887	43,840	48,844
1M BTC	Bitcoin Earnings Annual Average	Basic	5,981	7,307	8,141
		Premium	11,962	14,613	16,281
		Luxury	17,944	21,920	24,422
	Bitcoin Assets Cumulative Total	Basic	29,906	36,534	40,703
		Premium	59,812	73,067	81,407
		Luxury	89,718	109,601	122,110
2.1M BTC	Bitcoin Earnings Annual Average	Basic	12,561	15,344	17,095
		Premium	25,121	30,688	34,191
		Luxury	37,682	46,032	51,286
	Bitcoin Assets Cumulative Total	Basic	62,803	76,720	85,477
		Premium	125,606	153,441	170,954
		Luxury	188,409	230,161	256,431

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.