



BITCOIN LIGHTNING BANK CASE STUDY

The Decentralized and Distributed 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 fundraising 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 concentrated 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.

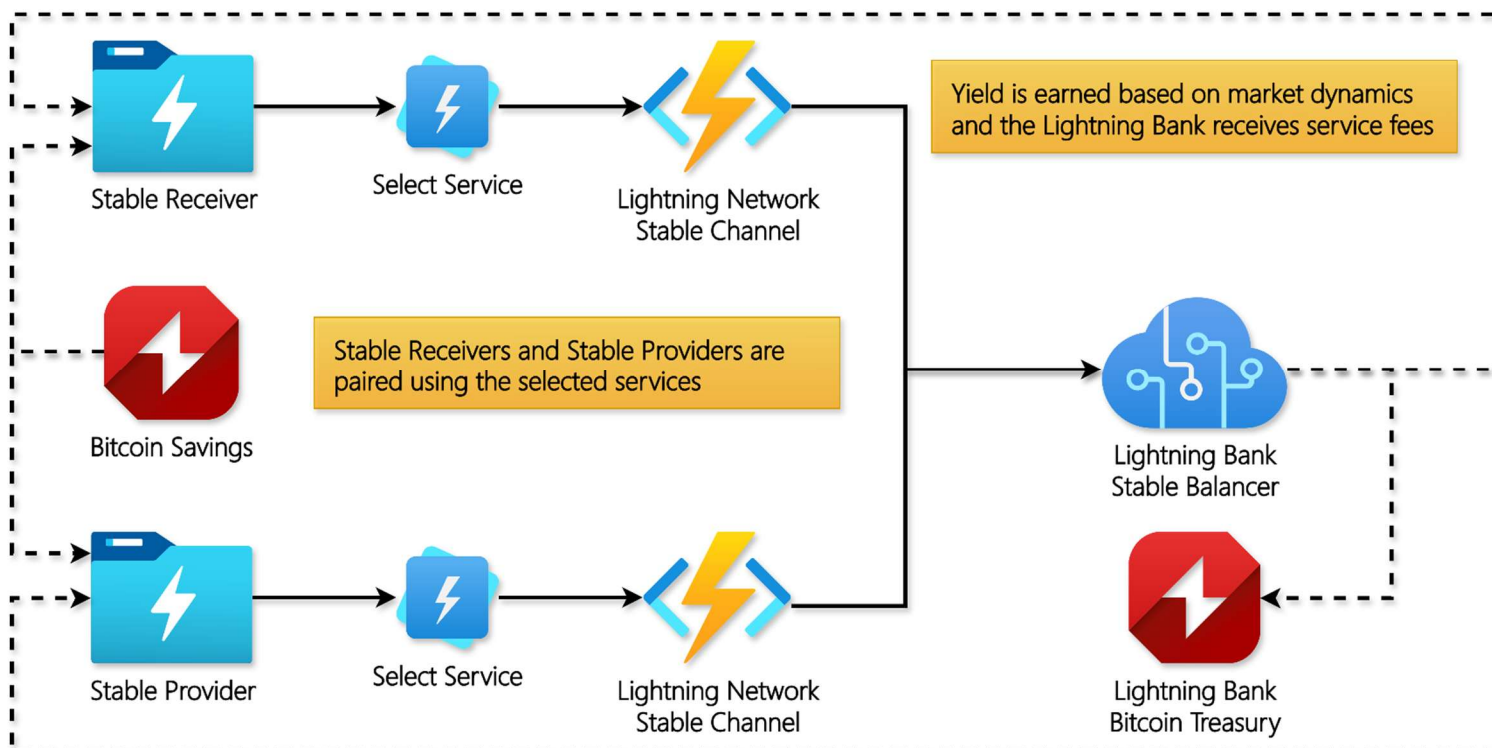
Kyle Hutchinson



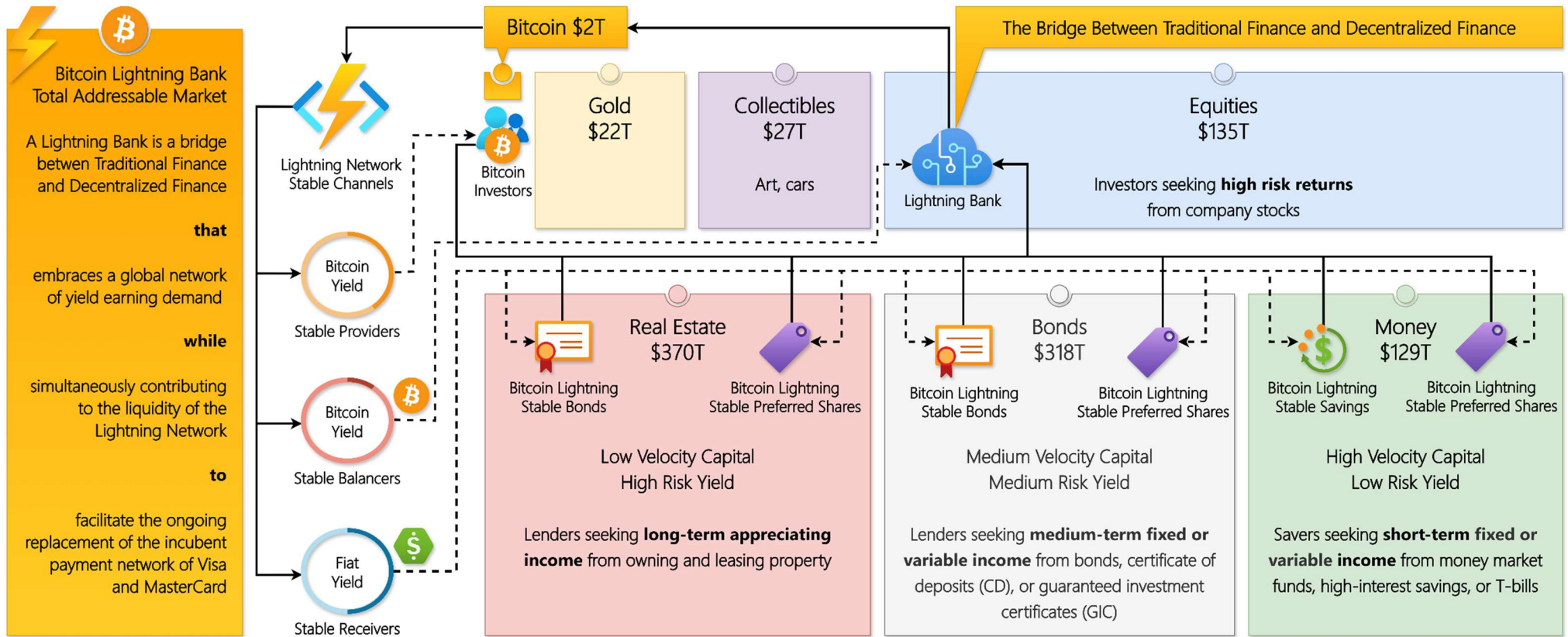
Bitcoin Lightning Bank Overview and Features

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



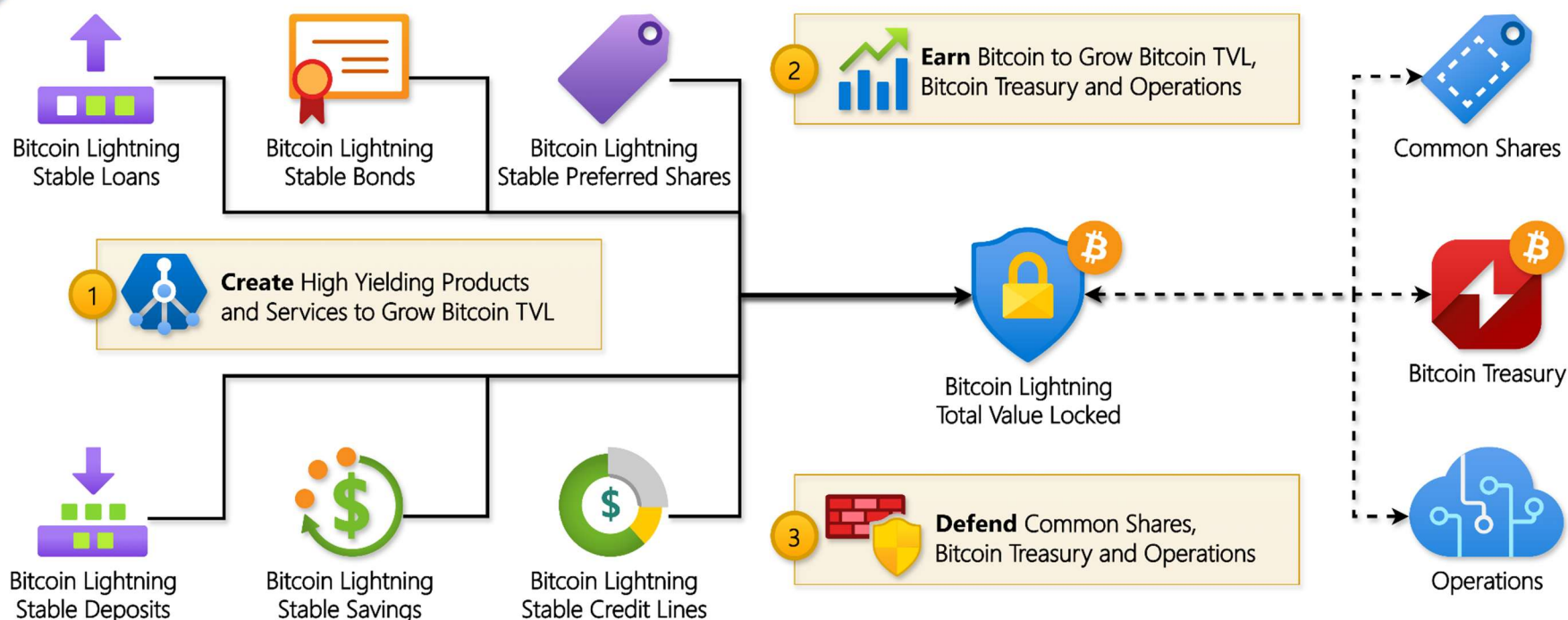
Feature Comparison	Bitcoin Treasury Companies and Bitcoin Banks	Bitcoin Lightning Banks	Bitcoin Lightning Stable Bonds	
Financial Products	Centralized Finance (CeFi)	Centralized and Decentralized Finance (CeFi & DeFi)	Flexible Rates	Fixed or variable rates based on percentage of stable Fiat or Bitcoin 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		



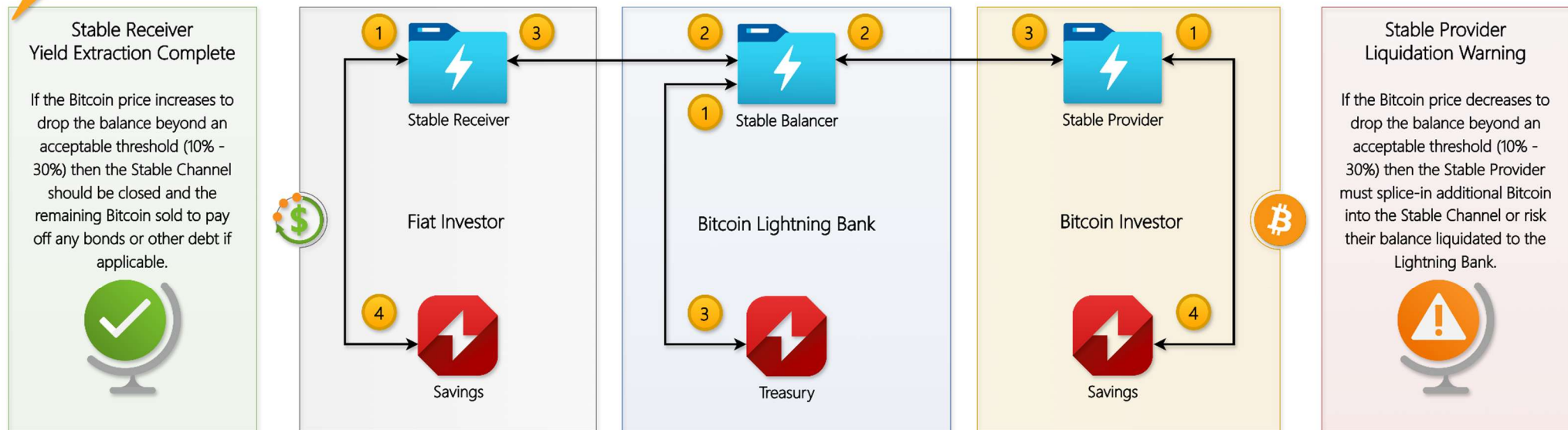
Use Cases		Centralized Finance (CeFi)	Decentralized Finance (DeFi)		
		Custodial	Non-Custodial Stable Receiver	Non-Custodial Stable Provider	Non-Custodial
Stable Channel	Stable Receiver	Lightning Bank	Fiat Investors	Lightning Bank	Fiat Investors
	Stable Provider	Lightning Bank	Lightning Bank	Bitcoin Investors	Bitcoin Investors
Lightning Bank	Goal	Store Bitcoin that was procured from liabilities (ex: bonds, preferred shares) 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	Deposit Bitcoin to Lightning Bank to manage the Leverage Long Stable Channel while maintenance is required to avoid liquidation			Self-custody Bitcoin in 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
Bonds and Preferred Shares	Bank sells products to Fiat Investors then buys Bitcoin and deposits into a custodial portion of a Lightning Network Stable Channel to grow Bitcoin Lightning TVL and earn yield as a Stable Receiver. Bond interest or share dividend payments are covered by Stable Providers.	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.
Savings and Deposits	Bank provides service for Fiat or Bitcoin Investors to deposit owned Bitcoin into a non-custodial or 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
Loans and Credit Lines	Bitcoin Investors can use their custodial Bitcoin deposits as collateral for borrowing Bitcoin in a loan to be used for increased leverage or borrowing USAT / USDT in a credit line and interest fees are charged.	Mitigate risks by earning Bitcoin interest revenue from lending products
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
Operations Revenue	Bank earns Lightning Network node operation revenue.	Mitigate risks by earning Bitcoin routing and liquidity management revenue
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



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**

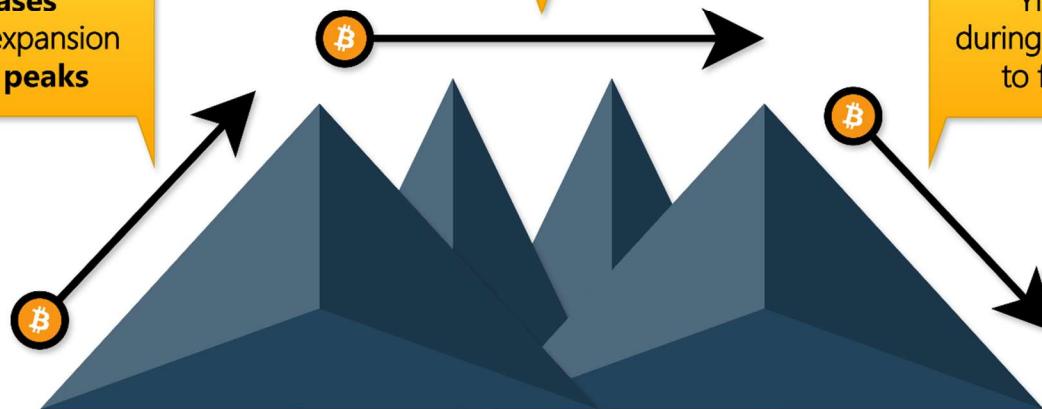
Bitcoin is extracted from a **Stable Provider** at the Bitcoin Contraction Rate

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)

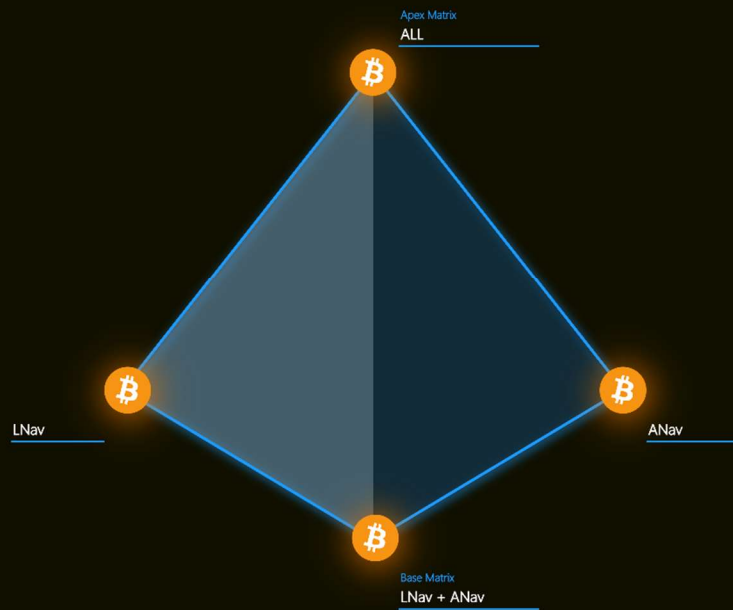


Market Intelligence identifies opportunities to maximize returns by taking advantage of yield peaks, valleys, and cliffs

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, buyout or 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. Stable Providers offer a fixed interest rate to Stable Receivers so that the yield is immune to Bitcoin price stagnation, so this is just a Bitcoin Investor concern.
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 the profit once Bitcoin recovers but is now on the hook for making interest payments.

Lightning Bank Products			Customer	Balance	Mechanics	Custodial	Redeemable	Yield Sources
Bitcoin Lightning Stable Bond			Fiat Investor	Stable Fiat backed by BTC	Deposited bitcoin is stabilized by an over collateralized network of Bitcoin Lightning Stable Providers	Yes	Yes, by both customer and issuer	Fixed Income from Stable Providers
Bitcoin Lightning Stable Preferred Share			Fiat Investor	Stable Fiat backed by BTC	Deposited bitcoin is stabilized by an over collateralized network of Bitcoin Lightning Stable Providers	Yes	Yes, by both customer and issuer	Fixed Income from Stable Providers
Bitcoin Lightning Stable Loan			Bitcoin Investor	Leveraged BTC	Deposited bitcoin leveraged by a network of Bitcoin Lightning Stable Receivers with the ability to borrow Bitcoin for additional leverage	Yes	Yes, by both customer and issuer	Bitcoin Growth and Lightning Transactions
Bitcoin Lightning Stable Credit Line			Bitcoin Investor	Leveraged BTC	Deposited bitcoin leveraged by a network of Bitcoin Lightning Stable Receivers with the ability to borrow USAT / USDT	Yes	Yes, by both customer and issuer	Bitcoin Growth and Lightning Transactions
Bitcoin Lightning Stable Deposit			Bitcoin Investor	Leveraged BTC	Deposited bitcoin leveraged by a network of Bitcoin Lightning Stable Receivers	Yes	Yes, by both customer and issuer	Bitcoin Growth and Lightning Transactions
Bitcoin Lightning Stable Savings			Fiat Investor	Stable Fiat backed by BTC	Deposited bitcoin is stabilized by an over collateralized network of Bitcoin Lightning Stable Providers	No	Yes, by customer only	Fixed Income from Stable Providers
			Bitcoin Investor	Leveraged BTC	Deposited bitcoin is leveraged by a network of Bitcoin Lightning Stable Receivers	No	Yes, by customer only	Bitcoin Growth and Lightning Transactions
Lightning Bank Services								
Fiat Investor	Standard	Enterprise-grade Lightning Network Stable Channel liquidity services which provide efficient USD principal balance stability coupled with high-yielding USD interest payments						
	Premium	Standard plus ultra-high yielding USD interest payments generated by locking funds and compounding interest in Bitcoin over the duration of the lock						
Bitcoin Investor	Standard	Enterprise-grade Lightning Network Stable Channel liquidity services which provide efficient BTC principal balance stability coupled with high-yielding BTC interest payments						
	Premium	Standard plus Bitcoin Drawdown Liquidation Protection. Liquidation can still occur if interest payments are not made or borrowed funds are not returned.						
	Luxury	Premium plus Bitcoin Yield Boost Loans which provide additional leverage with additional risk that the principal can be depleted quicker during Bitcoin Drawdowns so interest payment failures may trigger a liquidation event.						

Bitcoin Lightning Infrastructure Yield Matrix



Lightning NAV

LNav

Bitcoin Transaction Yield (BTY) can be earned in satoshis (sats) by collecting routing fees from using bitcoin liquidity to forward payments with future plans to collect tether routing fees from using tether liquidity to forward payments.

Yield Earners

Service
Provider

Arbitrage NAV

ANav

Bitcoin Yield can be earned in satoshis (sats) by collecting fees from using bitcoin liquidity provisioning, market-making activities, and bot cross-exchange arbitrage with future plans on collecting fees from using tether liquidity provisioning.

Yield Earners

Service
Provider

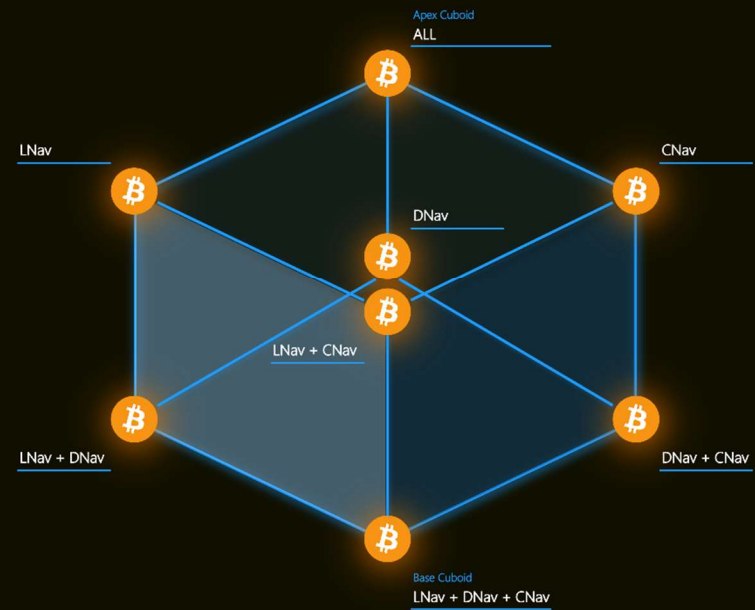
80%

Bitcoin Treasury

20%

Tether Treasury

Bitcoin Lightning Finance Yield Cube



Lightning NAV

LNav

Bitcoin Transaction Yield (BTY) can be earned in satoshis (sats) by collecting routing fees from using bitcoin liquidity to forward payments with future plans to collect tether routing fees from using tether liquidity to forward payments.

Yield Earners

Service
Provider

Bitcoin
Investor

Derivatives NAV

DNav

Bitcoin Growth Yield (BGY) can be earned in satoshis (sats) by pairing a stable USD balance backed by bitcoin with a 2X Leverage Long bitcoin balance and distributing the yield. Bonds and Preferred Shares are created to provide yield while absorbing bitcoin price volatility.

Yield Earners

Service
Provider

Bitcoin
Investor

Fiat
Investor

Credit NAV

CNav

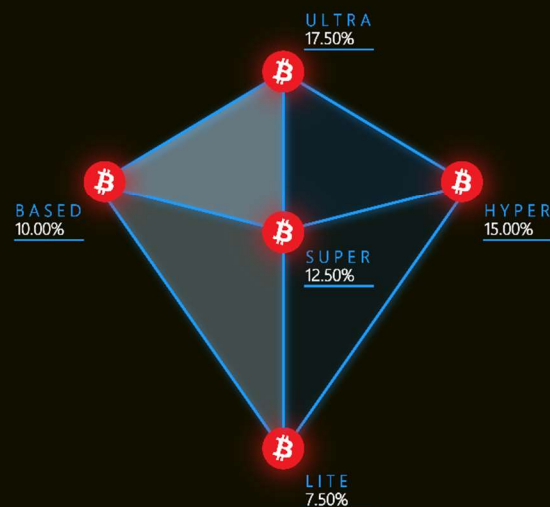
Bitcoin Lending Yield (BLY) can be earned in satoshis (sats) by collecting service fees from Bitcoin investors that choose to borrow tether using their deposited bitcoin as collateral.

Yield Earners

Service
Provider

Bitcoin Lightning Credit Derivative Service Rates

Ultra-High Bitcoin Yield via Leveraged Bitcoin Growth and Lightning Transactions






A Liquid Fusion of

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Integrated and Cohesive
Bitcoin Lightning Products
for Bitcoin Investors
and Fiat Investors

Bitcoin Lightning Stable Bond Fiat Investor	Custodial
Bitcoin Lightning Stable Preferred Share Fiat Investor	Custodial
Bitcoin Lightning Stable Loan Bitcoin Investor	Custodial
Bitcoin Lightning Stable Credit Line Bitcoin Investor	Custodial
Bitcoin Lightning Stable Deposit Bitcoin Investor	Custodial
Bitcoin Lightning Stable Savings Bitcoin Investor and Fiat Investor	Non-Custodial

	Fiat Investor 		Bitcoin Investor 			
	Stable Receiver	Bitcoin with fiat price stability and high yield income	Stable Provider	Bitcoin collateral with funding rate obligations for leveraged Bitcoin growth and Lightning transaction exposure		
	Standard Simple	Premium Compounded 5 Year	Standard 2X Simple	Premium 2X Liquidation Protection	Luxury 2.5X ** Liquidation Protection & Yield Boost Loan	Luxury 3X ** Liquidation Protection & Yield Boost Loan
ULTRA	17.50% Fiat per annum paid monthly	26.05% - 38.31% * Fiat per annum paid at maturity	1.74% - 8.80% * BTC per annum paid monthly	0.38% - 7.03% * BTC per annum paid monthly	1.32% - 9.78% * BTC per annum paid monthly	3.61% - 14.30% * BTC per annum paid monthly
HYPER	15.00% Fiat per annum paid monthly	22.32% - 32.84% * Fiat per annum paid at maturity	3.23% - 9.81% * BTC per annum paid monthly	1.88% - 8.05% * BTC per annum paid monthly	2.81% - 10.80% * BTC per annum paid monthly	5.11% - 15.32% * BTC per annum paid monthly
SUPER	12.50% Fiat per annum paid monthly	18.60% - 27.36% * Fiat per annum paid at maturity	4.73% - 10.83% * BTC per annum paid monthly	3.37% - 9.06% * BTC per annum paid monthly	4.31% - 11.82% * BTC per annum paid monthly	6.60% - 16.34% * BTC per annum paid monthly
BASED	10.00% Fiat per annum paid monthly	14.88% - 21.89% * Fiat per annum paid at maturity	6.22% - 11.85% * BTC per annum paid monthly	4.87% - 10.08% * BTC per annum paid monthly	5.81% - 12.83% * BTC per annum paid monthly	8.10% - 17.36% * BTC per annum paid monthly
LITE	7.50% Fiat per annum paid monthly	11.16% - 16.42% * Fiat per annum paid at maturity	7.72% - 12.87% * BTC per annum paid monthly	6.36% - 11.10% * BTC per annum paid monthly	7.30% - 13.85% * BTC per annum paid monthly	9.59% - 18.37% * BTC per annum paid monthly
Service Provider 		Service Fee Allocation				
Stable Balancer		10% BTC 0% Fiat				
Automated Bitcoin Yield collection and distribution service		20% BTC 0% Fiat				
		30% BTC 7.5% Fiat on 50% LTV				
		30% BTC 7.5% Fiat on 100% LTV				
		Service Fee Rate				
		1.36% - 1.77% * BTC per annum paid monthly				
		2.71% - 3.54% * BTC per annum paid monthly				
		8.26% - 9.43% * BTC per annum paid monthly				
		12.44% - 13.54% * BTC per annum paid monthly				
20K	Bitcoin Lightning Total Value Locked	5 Year Annual Average	136 - 177 *	271 - 354 *	826 - 943 *	1,244 - 1,354 *
		5 Year Cumulative Total	678 - 884 *	1,356 - 1,769 *	4,128 - 4,713 *	6,221 - 6,772 *
400K	Bitcoin Lightning Total Value Locked	5 Year Annual Average	2,712 - 3,538 *	5,424 - 7,075 *	16,511 - 18,850 *	24,886 - 27,087 *
		5 Year Cumulative Total	13,561 - 17,688 *	27,121 - 35,377 *	82,555 - 94,251 *	124,428 - 135,436 *
1M	Bitcoin Lightning Total Value Locked	5 Year Annual Average	6,780 - 8,844 *	13,561 - 17,688 *	41,277 - 47,125 *	62,214 - 67,718 *
		5 Year Cumulative Total	33,901 - 44,221 *	67,803 - 88,442 *	206,387 - 235,627 *	311,071 - 338,591 *

Posted rates dated October 30, 2025

* Ranges are estimated from 5 year averages of Bitcoin Growth Yield (BTC CAGR) between 20% and 40% and Bitcoin Transaction Yield at 1% (LN Routing Fees) which gradually depreciate due to loan interest payment withdrawals

** Luxury service buys Bitcoin and loans it to the Bitcoin Investor at the L I T E rate then allocates to the Stable Receiver to provide a leveraged yield boost

Bonds are non-convertible, callable, puttable, extendible and secured to the bitcoin contained as a Stable Receiver in Lightning Network channels.

Premium Bonds are tax-exempt zero coupons with the same annual rate in USD as **Standard Bonds** but instead compounded in Bitcoin and then is sold at maturity to provide a lump sum USD payment

Preferred Shares are non-convertible, callable and retractable