BITCOIN LIGHTNING BANK

CASE STUDY

The Decentralized Strategy

September 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.
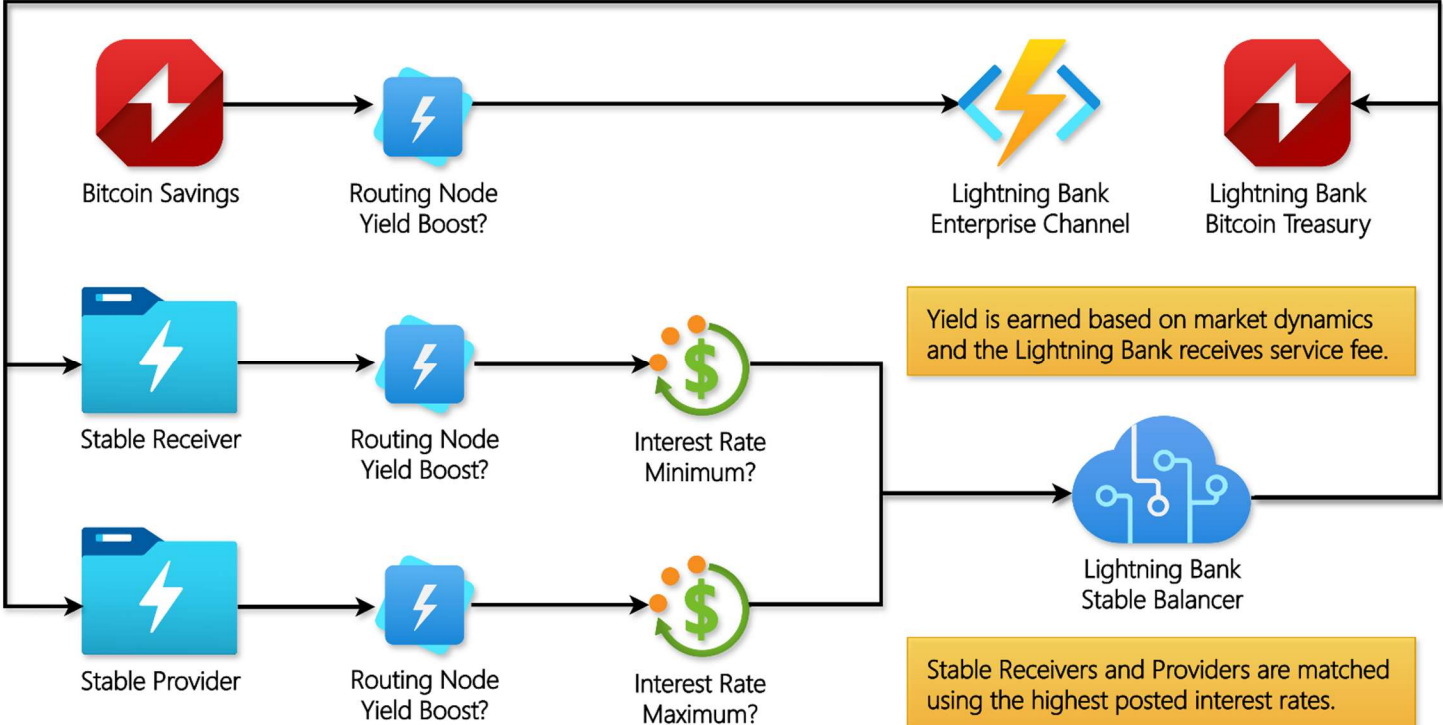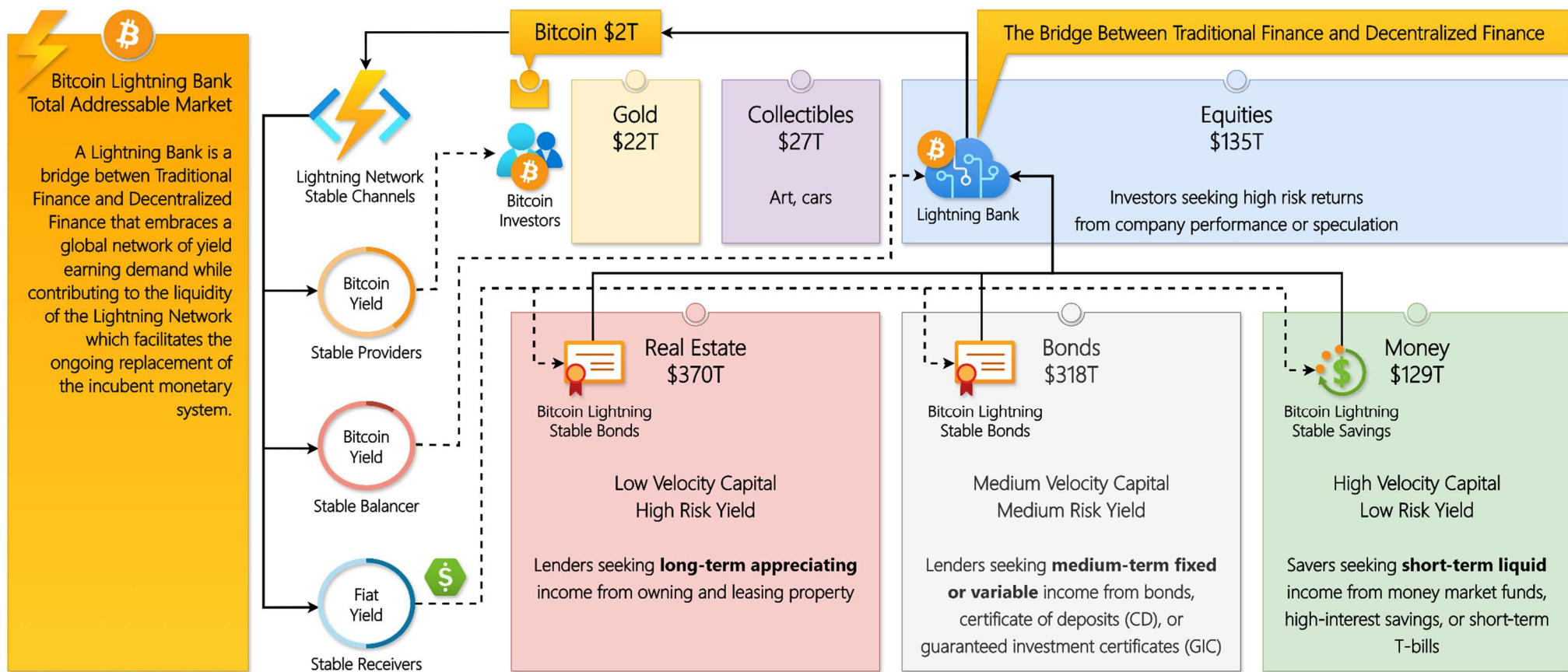
Kyle Hutchinson

Bitcoin Lightning Bank Overview and Features

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

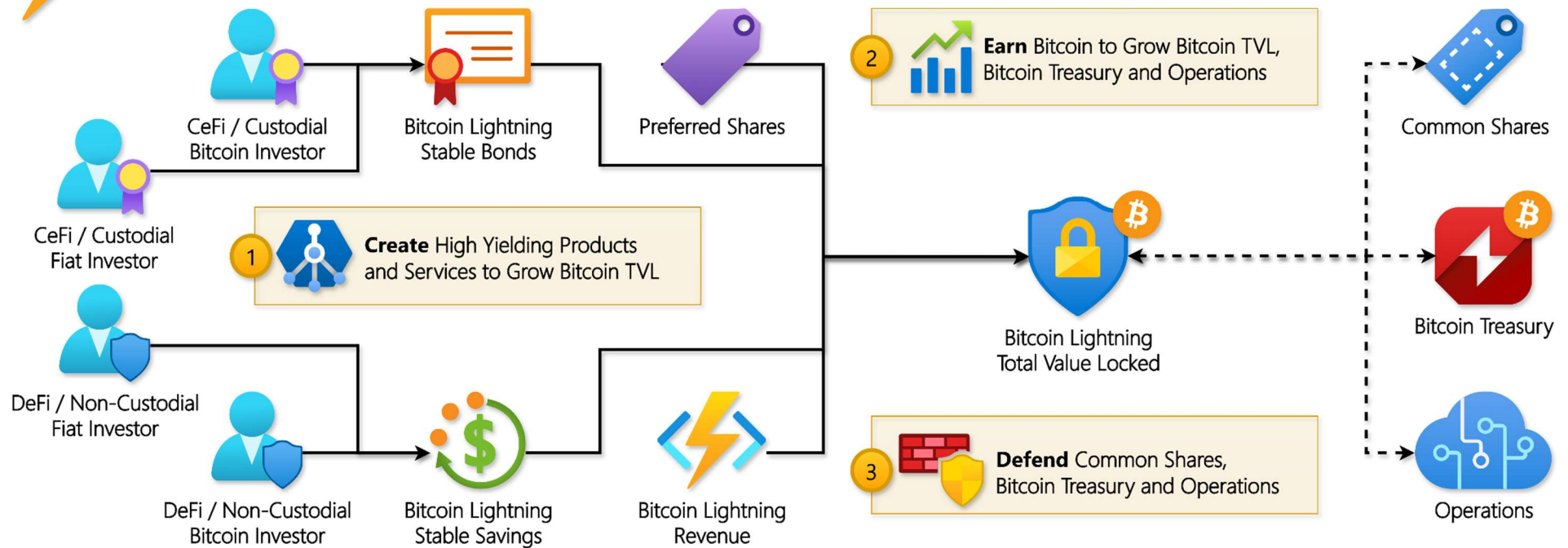Stable Providers are Bitcoin Investors that 2X Long Bitcoin to Earn Yield

Diagram labels:

- Bitcoin Savings → Routing Node Yield Boost? → Lightning Bank Enterprise Channel
- Lightning Bank Bitcoin Treasury
- Stable Receiver → Routing Node Yield Boost? → Interest Rate Minimum?
- Stable Provider → Routing Node Yield Boost? → Interest Rate Maximum?
- Lightning Bank Stable Balancer

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

Stable Receivers and Providers are matched using the highest posted interest rates.

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 incubent monetary system.

Bitcoin $2T

The Bridge Between Traditional Finance and Decentralized Finance

Lightning Network Stable Channels

Bitcoin Investors

Bitcoin Yield — Stable Providers

Bitcoin Yield — Stable Balancer

Fiat Yield — Stable Receivers

Gold $22T

Collectibles $27T
Art, cars

Lightning Bank

Equities $135T
Investors seeking high risk returns from company performance or speculation

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 liquid** 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**

Bitcoin Lightning Bank - The Proof of Work Bitcoin Strategy

1 **Create** High Yielding Products and Services to Grow Bitcoin TVL

2 **Earn** Bitcoin to Grow Bitcoin TVL, Bitcoin Treasury and Operations

3 **Defend** Common Shares, Bitcoin Treasury and Operations

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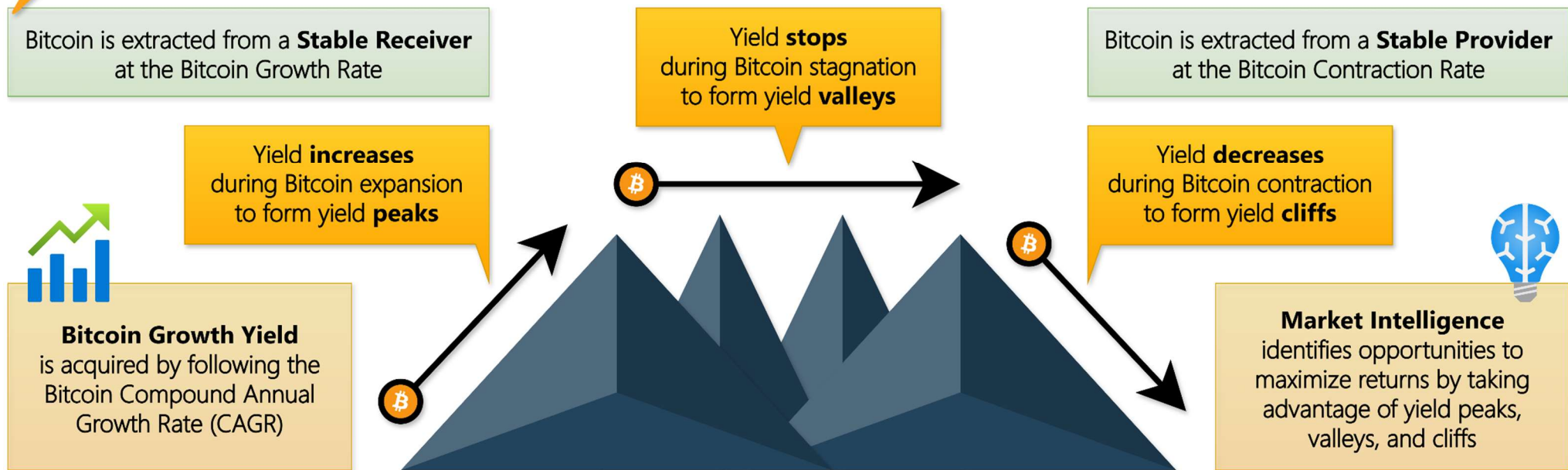
The Lightning Bank Stable Balancer is an intelligent automated market maker (AMM) that maintains a liquidity pool to splice in and out of the Lightning Channels between a Stable Receiver and Stable Provider so that the Stable Receiver has a guaranteed stable Fiat balance backed by Bitcoin.

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.

Annual Yield Summary Estimates | Bitcoin Compound Annual Growth Rate (BTC CAGR) Scenarios

Participant	Lightning Channel Role	Yield Allocation	Unit of Account	Payment Frequency	20%	25%	30%	35%	40%
Fiat Investor	Stable Receiver	50%	Fiat	Annually, Semi-Annually, Quarterly, Monthly	10%	12.50%	15%	17.50%	20%
				Upon Maturity Date - 5 Year Compounded	14.88%	20.52%	27.13%	34.84%	43.78%
				Upon Maturity Date - 10 Year Compounded	25.96%	41.57%	63.93%	95.53%	139.63%
Bitcoin Investor	Stable Provider	40%	Bitcoin	Flexible - 5 Year Average	4.78%	5.38%	5.85%	6.22%	6.51%
				Flexible - 10 Year Average	3.35%	3.57%	3.71%	3.80%	3.86%
Lightning Bank	Stable Balancer	10%	Bitcoin	Flexible - 5 Year Average	1.20%	1.34%	1.46%	1.55%	1.63%
				Flexible - 10 Year Average	0.84%	0.89%	0.93%	0.95%	0.97%

Yield Burndown Summary Estimates

Participant				Payment Frequency	20%	25%	30%	35%	40%
Bitcoin Yield Remaining				Year 3	57.87%	51.20%	45.52%	40.64%	36.44%
				Year 5	40.19%	32.77%	26.93%	22.30%	18.59%
				Year 7	27.91%	20.97%	15.94%	12.24%	9.49%
				Year 10	16.15%	10.74%	7.25%	4.97%	3.46%

- **Bitcoin Yield is extracted from Stable Receiver then distributed**
- **Bitcoin Yield Remaining Percentages indicate remaining yield to be extracted**
- **Bitcoin Yield Remaining Highlighted Percentages indicate when majority of the yield has been extracted for an exit then obtain more Fiat liquidity to purchase additional Bitcoin**

Lightning Bank 5 Year Bitcoin Yield Estimates			Bitcoin Compound Annual Growth Rate (BTC CAGR) Scenarios		
Total Value Locked	Yield Allocation	Forward Metric	20%	30%	40%
20K BTC	10%	Bitcoin Earnings Annual Average	120	146	163
		Bitcoin Assets Cumulative Total	598	731	814
400K BTC	10%	Bitcoin Earnings Annual Average	2,392	2,923	3,256
		Bitcoin Assets Cumulative Total	11,962	14,613	16,281
1M BTC	10%	Bitcoin Earnings Annual Average	5,981	7,307	8,141
		Bitcoin Assets Cumulative Total	29,906	36,534	40,703
2.1M BTC	10%	Bitcoin Earnings Annual Average	12,561	15,344	17,095
		Bitcoin Assets Cumulative Total	62,803	76,720	85,477

The Goal

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 and dual serve as routing liquidity nodes so that the Lightning Network is more liquid and scalable.

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