BITCOIN LIGHTNING BANK

CASE STUDY V4

The Decentralized Strategy

ABSTRACT

The Bitcoin Compound Annual Growth Rate (CAGR) from 2015 to 2025 is said to be 60%, meaning that the value grew 60% each year on average for ten years. Institutions are investing into Bitcoin Exchange Traded Funds (ETFs) which shoulder all of 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.
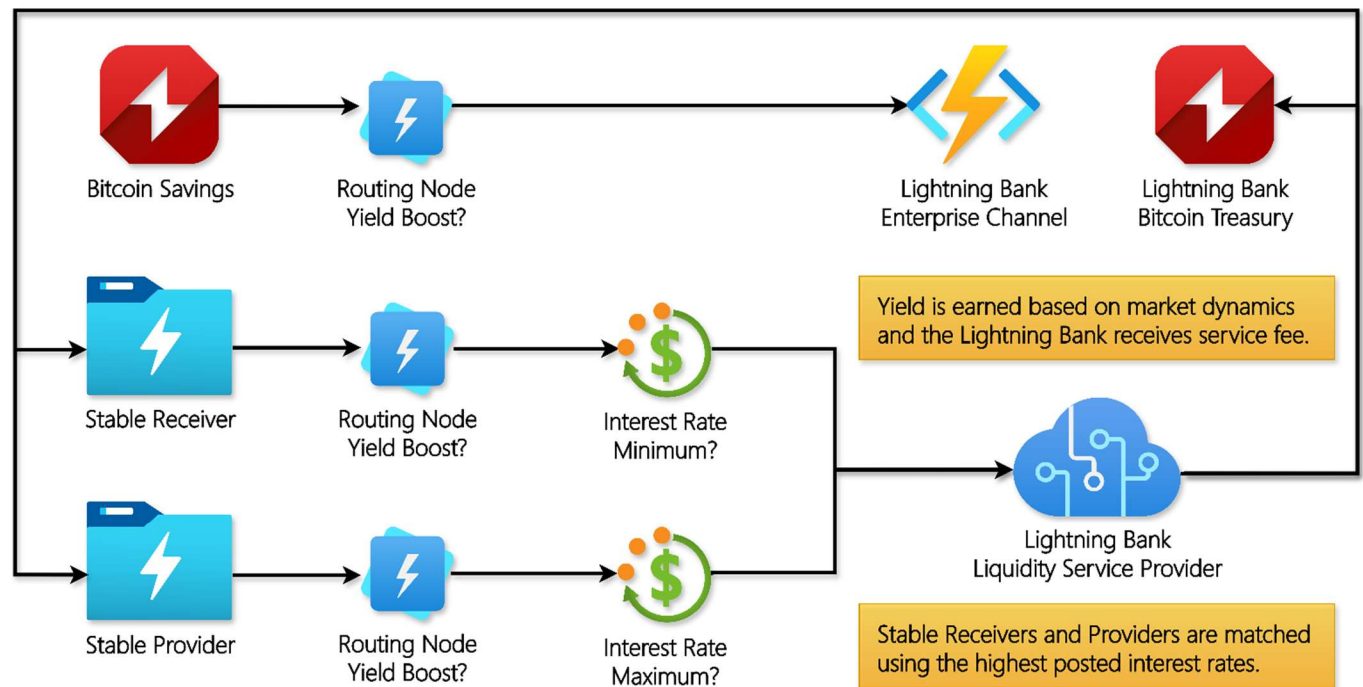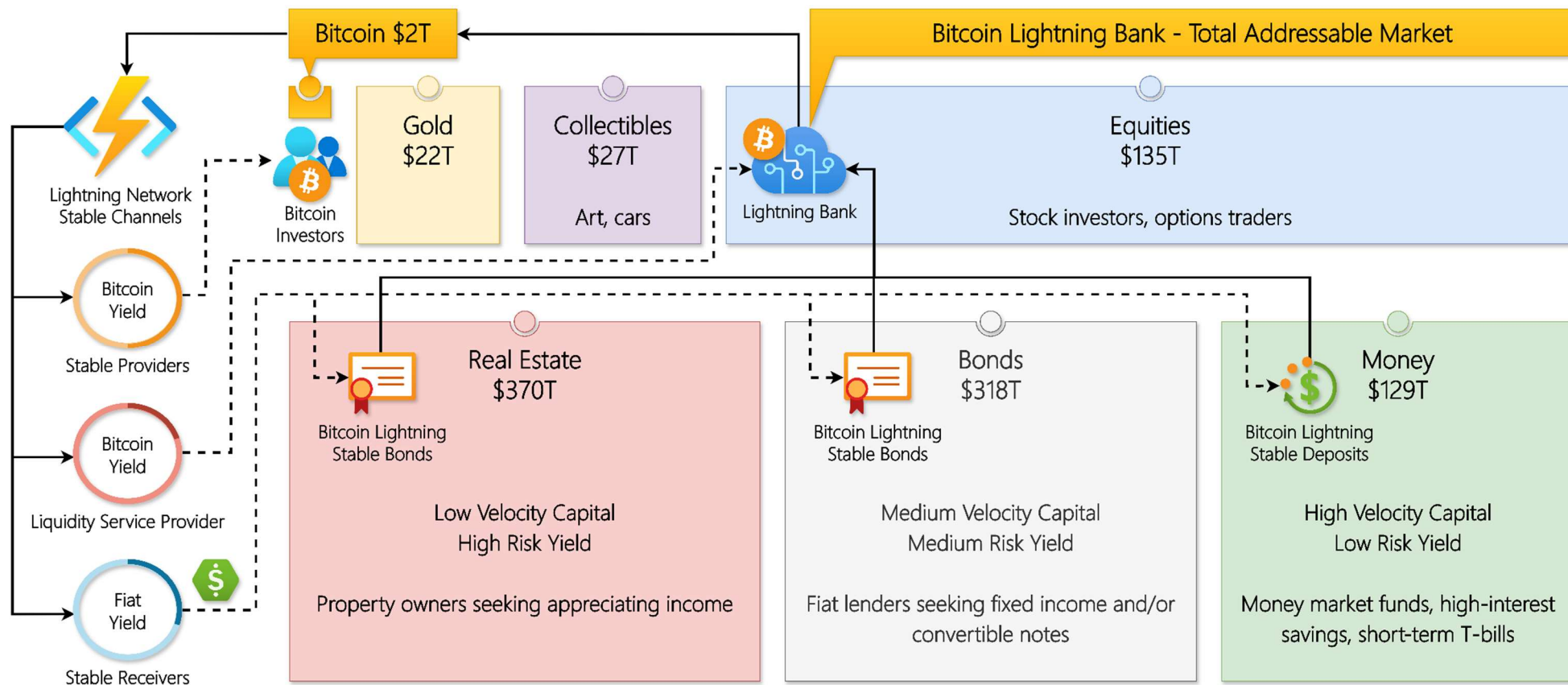
Kyle Hutchinson

Bitcoin Lightning Bank Overview and Features

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

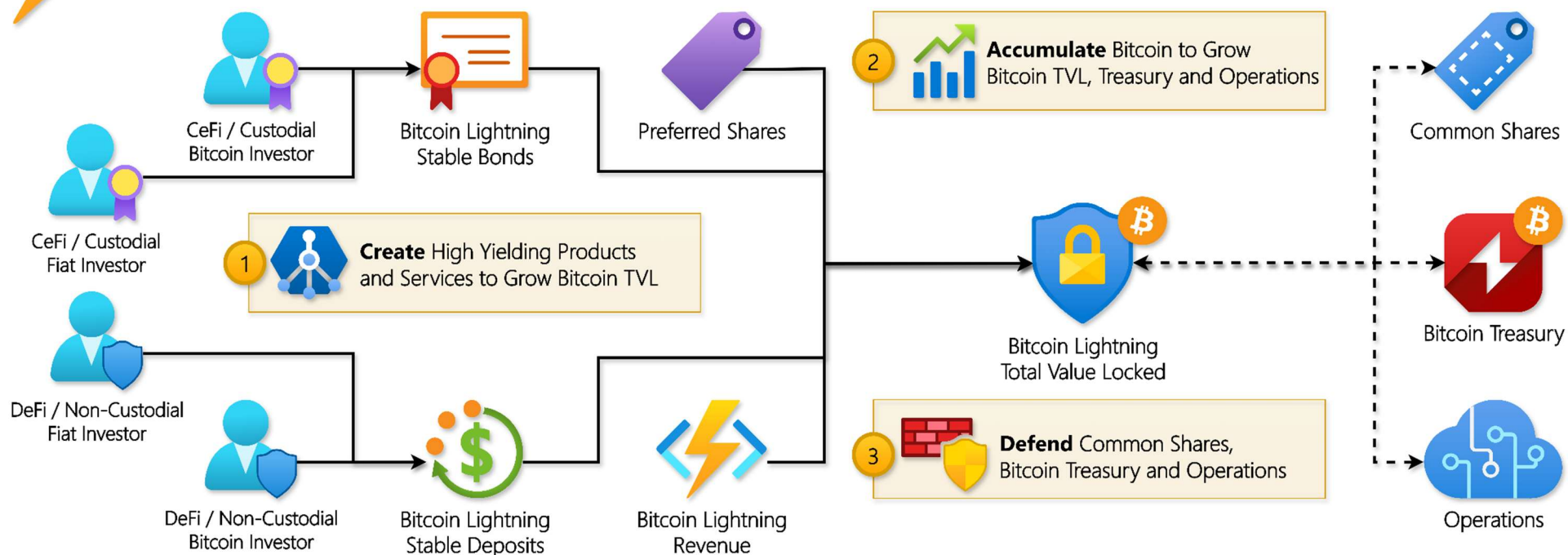Stable Providers are Bitcoin Investors that 2X Long Bitcoin to Earn Yield

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 Liquidity Service Provider

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 Bank 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	If Bitcoin overperforms then the bond can optionally be paid back
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

Bitcoin $2T

Lightning Network Stable Channels

Bitcoin Investors

Bitcoin Yield — Stable Providers

Bitcoin Yield — Liquidity Service Provider

Fiat Yield — Stable Receivers

Gold $22T

Collectibles $27T — Art, cars

Lightning Bank

Equities $135T — Stock investors, options traders

Real Estate $370T
Bitcoin Lightning Stable Bonds

Low Velocity Capital
High Risk Yield

Property owners seeking appreciating income

Bonds $318T
Bitcoin Lightning Stable Bonds

Medium Velocity Capital
Medium Risk Yield

Fiat lenders seeking fixed income and/or convertible notes

Money $129T
Bitcoin Lightning Stable Deposits

High Velocity Capital
Low Risk Yield

Money market funds, high-interest savings, short-term T-bills

Use Cases		Centralized Finance (CeFi) Custodial	Decentralized Finance (DeFi) 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 Ultimate Bitcoin Strategy

CeFi / Custodial Bitcoin Investor

CeFi / Custodial Fiat Investor

DeFi / Non-Custodial Fiat Investor

DeFi / Non-Custodial Bitcoin Investor

Bitcoin Lightning Stable Bonds

Preferred Shares

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

Bitcoin Lightning Stable Deposits

Bitcoin Lightning Revenue

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

Bitcoin Lightning Total Value Locked

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

Common Shares
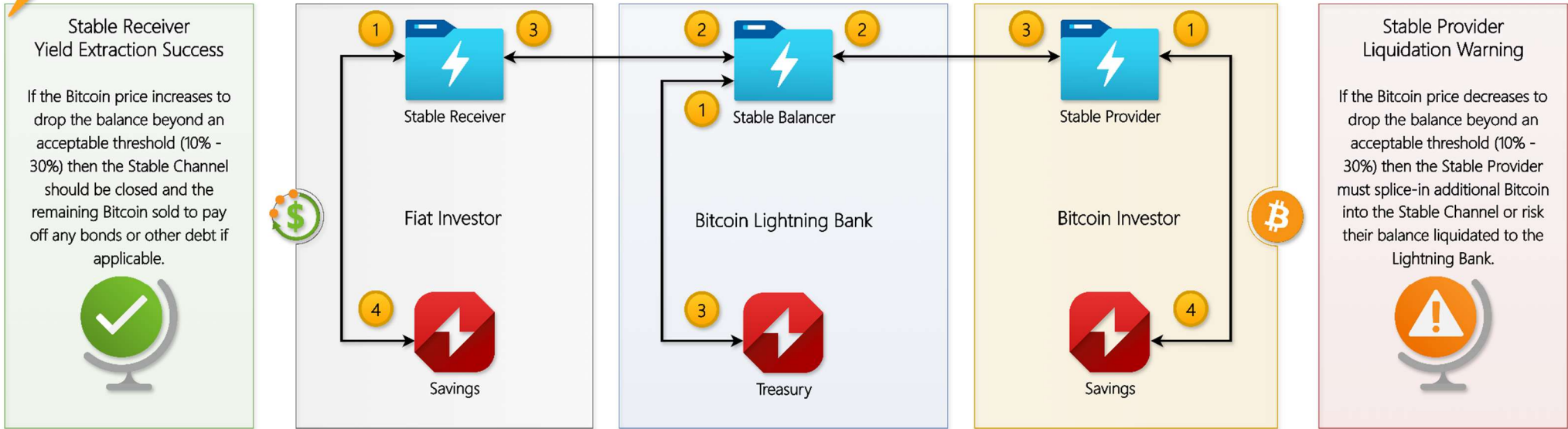
Bitcoin Treasury

Operations

Bitcoin Strategy	Create and Accumulate 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 Deposits	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**

Stable Receiver Yield Extraction Success

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

1
3
4

Savings

Stable Balancer

Bitcoin Lightning Bank

2
2
1
3

Treasury

Stable Provider

Bitcoin Investor

3
1
4

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 Lightning Bank Stable Balancer. If the Bitcoin price decreases, then the Stable Provider sends Bitcoin to the Lightning Bank Stable Balancer.
3	Rebalance Stable Receiver and Distribute Yield	Periodically, the Lightning Bank Stable Balancer will send Bitcoin to the Stable Receiver to ensure a stable fiat balance and then distribute Bitcoin Yield if available to all participants based on the pre-defined yield 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.

Yield Estimates	Year 1 Start	Year 5 End				
Bitcoin Compound Annual Growth Rate		25%	30%	35%	40%	45%
1 Bitcoin USD Value	$0.10M USD	$0.31M USD	$0.37M USD	$0.45M USD	$0.54M USD	$0.64M USD
Stable Receiver Balance	10 BTC	3.28 BTC	2.69 BTC	2.23 BTC	1.86 BTC	1.56 BTC
	$1M USD	$1M USD	$1M USD	$1M USD	$1M USD	$1M USD
Stable Provider Balance	10 BTC	Variable due to market dynamics				
Total Yield		6.72 BTC	7.31 BTC	7.77 BTC	8.14 BTC	8.44 BTC
		$2.05M USD	$2.71M USD	$3.48M USD	$4.38M USD	$5.41M USD
Average Annual Yield		1.34 BTC	1.46 BTC	1.55 BTC	1.63 BTC	1.69 BTC
		$0.41M USD	$0.54M USD	$0.70M USD	$0.88M USD	$1.08M USD
Total Average Annual Yield Percentage		13.44% BTC	14.62% BTC	15.54% BTC	16.28% BTC	16.88% BTC
		41.02% USD	54.28% USD	69.68% USD	86.56% USD	108.20% USD

Average Annual Yield Percentage Allocation

Lightning Bank 20%		2.68% BTC	2.92% BTC	3.10% BTC	3.26% BTC	3.38% BTC
Stable Receiver 30%		12.33% USD	16.26% USD	20.90% USD	26.25% USD	32.43% USD
Stable Provider 50%		6.72% BTC	7.30% BTC	7.76% BTC	8.14% BTC	8.44% BTC

Average Annual Yield on 20K Bitcoin Total Value Locked

Lightning Bank		268 BTC	292 BTC	310 BTC	326 BTC	338 BTC
Stable Receivers		$123.29M USD	$162.63M USD	$208.96M USD	$262.46M USD	$324.33M USD
Stable Providers		672 BTC	730 BTC	776 BTC	814 BTC	844 BTC

Average Annual Yield on 400K Bitcoin Total Value Locked

Lightning Bank		5,360 BTC	5,840 BTC	6,200 BTC	6,520 BTC	6,760 BTC
Stable Receivers		$2.5B USD	$3.3B USD	$4.2B USD	$5.3B USD	$6.5B USD
Stable Providers		13,440 BTC	14,600 BTC	15,520 BTC	16,280 BTC	16,880 BTC

Average Annual Yield on 1M Bitcoin Total Value Locked

Lightning Bank		13,400 BTC	14,600 BTC	15,500 BTC	16,300 BTC	16,900 BTC
Stable Receivers		$6.2B USD	$8.1B USD	$10.5B USD	$13.1B USD	$16.2B USD
Stable Providers		33,600 BTC	36,500 BTC	38,800 BTC	40,700 BTC	42,200 BTC

10 Year Burndown Yield Estimates	Year 1 Start	Year 1 End	Year 2 End	Year 3 End	Year 4 End	Year 5 End	Year 6 End	Year 7 End	Year 8 End	Year 9 End	Year 10 End
20% Bitcoin Compound Annual Growth Rate											
Annualized Bitcoin Yield		16.67%	13.89%	11.57%	9.65%	8.04%	6.70%	5.58%	4.65%	3.88%	3.23%
Average Annualized Bitcoin Yield						11.96%					8.38%
Cumulative Bitcoin Yield		**16.67%**	**30.56%**	**42.13%**	**51.77%**	**59.81%**	**66.51%**	**72.09%**	**76.74%**	**80.62%**	**83.85%**
Remaining Bitcoin Yield		**83.33%**	**69.44%**	**57.87%**	**48.23%**	**40.19%**	**33.49%**	**27.91%**	**23.26%**	**19.38%**	**16.15%**
25% Bitcoin Compound Annual Growth Rate											
Annualized Bitcoin Yield		20.00%	16.00%	12.80%	10.24%	8.19%	6.55%	5.24%	4.19%	3.36%	2.68%
Average Annualized Bitcoin Yield						13.45%					8.93%
Cumulative Bitcoin Yield		**20.00%**	**36.00%**	**48.80%**	**59.04%**	**67.23%**	**73.79%**	**79.03%**	**83.22%**	**86.58%**	**89.26%**
Remaining Bitcoin Yield		**80.00%**	**64.00%**	**51.20%**	**40.96%**	**32.77%**	**26.21%**	**20.97%**	**16.78%**	**13.42%**	**10.74%**
30% Bitcoin Compound Annual Growth Rate											
Annualized Bitcoin Yield		23.08%	17.75%	13.65%	10.50%	8.08%	6.22%	4.78%	3.68%	2.83%	2.18%
Average Annualized Bitcoin Yield						14.61%					9.27%
Cumulative Bitcoin Yield		**23.08%**	**40.83%**	**54.48%**	**64.99%**	**73.07%**	**79.28%**	**84.06%**	**87.74%**	**90.57%**	**92.75%**
Remaining Bitcoin Yield		**76.92%**	**59.17%**	**45.52%**	**35.01%**	**26.93%**	**20.72%**	**15.94%**	**12.26%**	**9.43%**	**7.25%**
35% Bitcoin Compound Annual Growth Rate											
Annualized Bitcoin Yield		25.93%	19.20%	14.23%	10.54%	7.81%	5.78%	4.28%	3.17%	2.35%	1.74%
Average Annualized Bitcoin Yield						15.54%					9.50%
Cumulative Bitcoin Yield		**25.93%**	**45.13%**	**59.36%**	**69.89%**	**77.70%**	**83.48%**	**87.76%**	**90.94%**	**93.29%**	**95.03%**
Remaining Bitcoin Yield		**74.07%**	**54.87%**	**40.64%**	**30.11%**	**22.30%**	**16.52%**	**12.24%**	**9.06%**	**6.71%**	**4.97%**
40% Bitcoin Compound Annual Growth Rate											
Annualized Bitcoin Yield		28.57%	20.41%	14.58%	10.41%	7.44%	5.31%	3.79%	2.71%	1.94%	1.38%
Average Annualized Bitcoin Yield						16.28%					9.65%
Cumulative Bitcoin Yield		**28.57%**	**48.98%**	**63.56%**	**73.97%**	**81.41%**	**86.72%**	**90.51%**	**93.22%**	**95.16%**	**96.54%**
Remaining Bitcoin Yield		**71.43%**	**51.02%**	**36.44%**	**26.03%**	**18.59%**	**13.28%**	**9.49%**	**6.78%**	**4.84%**	**3.46%**