

Cloud-Based Solution for Healthcare Supply Chain Management

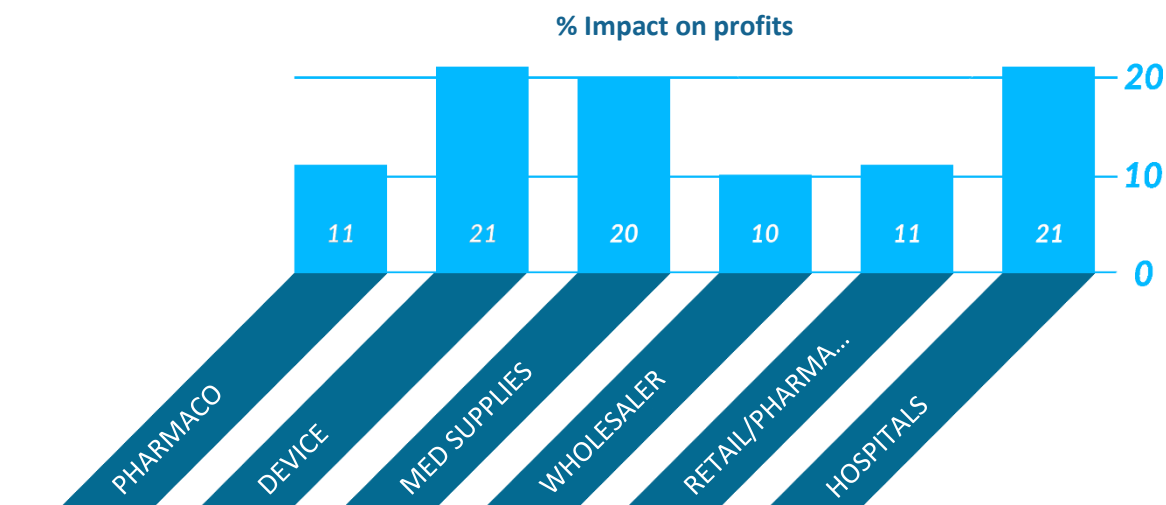


Healthcare Supply Chain Overview

In today's competitive world, cutting the cost of operations is the key to survival in any industry, including healthcare. The supply chain has been a significant driver of healthcare costs, which in turn is increasing the prices of drugs, surgical implants and many other healthcare products. In addition, the medical devices market is getting even more complex as companies expand their portfolios to meet market demand. The Implantable Medical Devices Market was valued at \$72,265 million, and is expected to reach \$116,300 million by 2022, supported by a CAGR of 7.1%¹. The highly complex nature of the supply chain does indeed pose a set of challenges in its upgradation and development. There is also an outcry for transparency in the supply chain to which the Block Chain implementation is a highly welcomed feature.

Now, more than ever, healthcare companies are focusing on efforts to increase efficiency and optimize costs in their supply chain operations. Stakeholders of the industry have been making significant technology investments for upgrading processes that include the use of digital commerce to bring suppliers and purchasers to the same platform. This ensures synchronization, transparency and automation of the supply chain and eliminates the need for middlemen. Cutting costs this way has the potential to make surgical and other medical supplies affordable, as well as to help increase the revenue of the companies that are struggling to survive the intense competition.

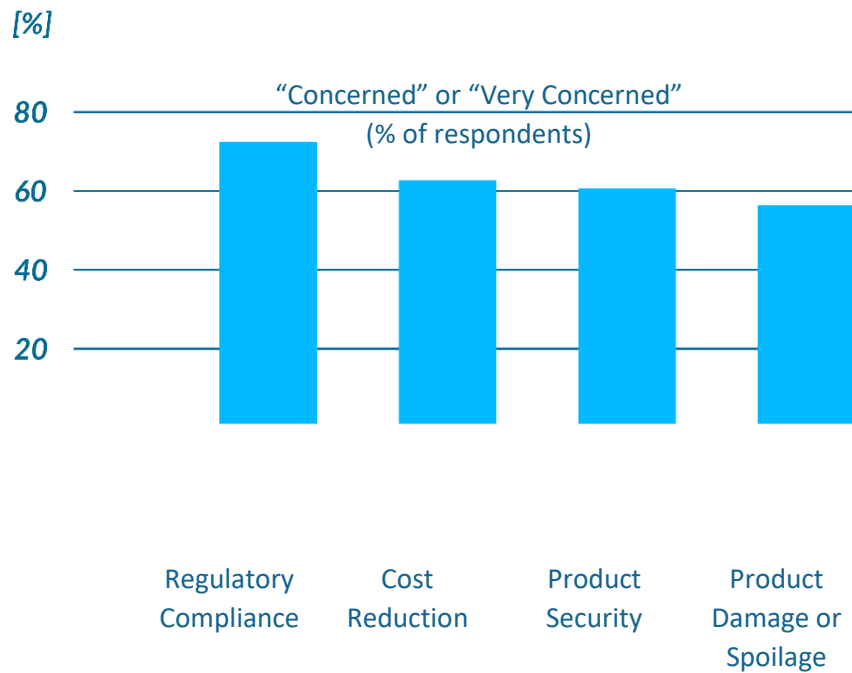
According to industry research, there are opportunities to boost profits throughout the supply chain transformation, from about 6% in retail to 20% in hospital and medical device manufacturer settings.



¹ <https://www.alliedmarketresearch.com/implantable-medical-devices-market>

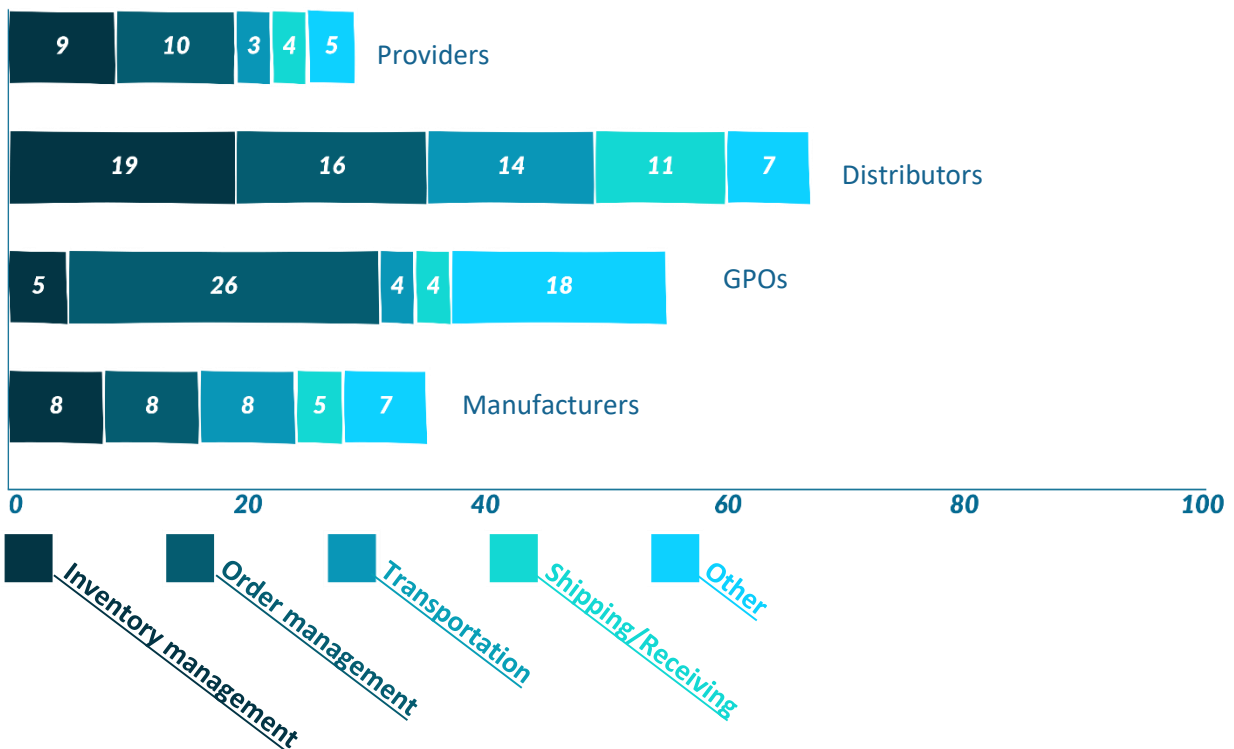
In a survey conducted by UPS regarding “Pain in the Supply Chain,” top executives of 260 pharmaceutical, biotech and medical device companies report that 64% of them are most anxious about achieving cost reductions.

Source: 2011 “Pain in the (Supply) Chain Survey, UPS



Gaps in the Supply Chain

When it comes to healthcare expenses, supplies make up a major portion of the expenses with millions of products moving along the supply chain every day.



Sample Size = 204; Source 2009, Nachtman and Pohl

Fig: Responses from the survey showing order management as the major portion of the annual operating expenses

The challenges that the healthcare supply chain faces today include lack of trust and partnerships, conflicting goals across supply chain activities, data inaccuracy, lack of use of information technology and high variation in client preferences and demand.

Major issues include:

- Implantable device management is currently a manual process, causing significant lost revenue from incorrect patient charges, disputed charges, and lost or expired inventory².
- There is also a lack of seamless integration of supply information technology for enabling the decision-making process. There is a rising demand for ERP software with integrated information and decision-support systems with proven algorithms for strategic planning.
- There is difficulty in setting up a long-term, healthy relationship between the suppliers and buyers in the supply chain. The need for a platform for suppliers to extend their reach in the market and find the best potential partners for conducting business is long overdue.
- Lack of proper flow of information decreases efficiency of the process. Cohesive information flow helps in faster reaction to changing market conditions, faster billing, improved cash flow and better customer care.
- There is a lack of efficiency as the manufacturers and providers/suppliers rely on traditional methods of communication and coordination (phone calls, faxes, etc.). Manufacturer's cost pressure is also ever increasing due to the hand-holding traditional sales process, intermediaries (like GPOs) squeezing manufacturers' profit margins, regulatory compliance and logistical challenges. This results in the need to operate more efficiently and consolidate operations.
- There is an uncertain regulatory environment. Several factors, including cross-border controls and patient safety concerns, have been leading to continuous changes in regulations, leaving companies wondering about how to deal with such changes.
- Disparities in proprietary data for product and location information pose a constant challenge to the materials management. Continuous translation of data and performance of manual processes result in errors, thereby decreasing the efficiency of the provider.

² <http://www.ghx.com/media/1095/the-current-state-of-the-implantable-device-supply-chain-102012.pdf>

Manufacturers/distributors and healthcare providers are looking to each other to help reduce operational costs and become more effective.

Supply Chain Strategy

Transforming the supply chain is not easy, but the payoffs are rewarding. Companies in the healthcare industry need to conduct a thorough analysis of the strengths, weaknesses, opportunities and threats in their supply chain and formalize a strategy based on the evaluation.

The major needs of the industry include:

- Greater agility to increase flexibility and reduce costs.
- An operating model that can respond to the changes in the demands of the customers at a reduced cost.
- A tool to manage inventory and eliminate waste.
- A tool that enables the suppliers to reduce costs by increasing the efficiency of the processes all the way through the supply chain.
- A platform that can automate the supply chain processes like billing, inventory management and contracts, thereby eliminating the chances of occurrence of manual errors, which can lead to lack of efficiency.
- Tools that can help make informed decisions. Companies need to manage key metrics, so they can make the right decisions at the right time.

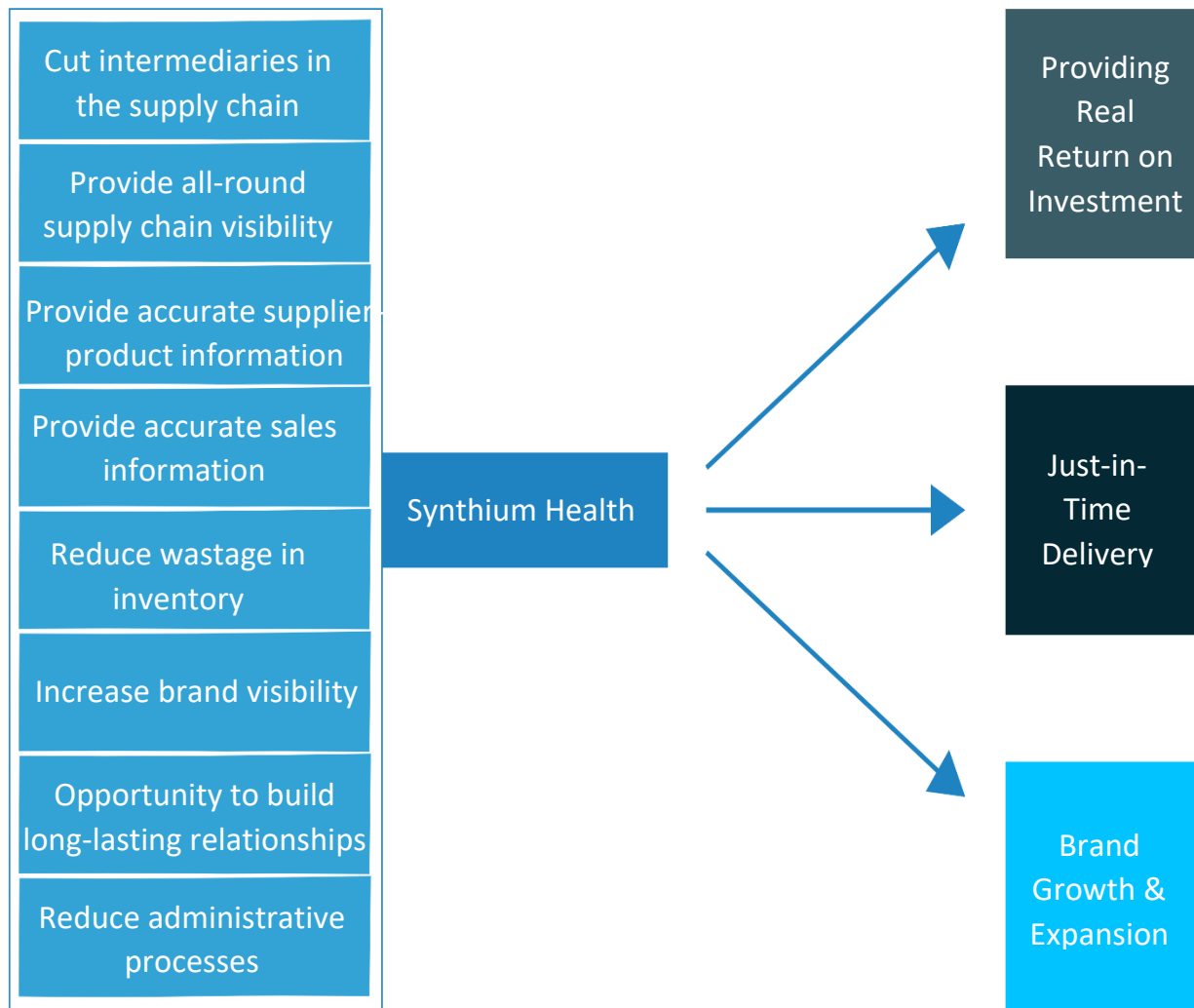
Synthium Health's Cloud-Based Solution

Synthium Health provides a unique networking marketplace that brings together healthcare providers and suppliers for simplified, efficient and cost-effective exchanges that build businesses. Using advanced technologies and the best practices, Synthium Health's automated platform creates efficiencies and maximizes revenues, all the way through the supply chain process. It empowers suppliers to extend their reach, sell faster, cut down on operational costs and deliver consistent buyer experiences across all touchpoints. Synthium Health also plans to collaborate with leading logistics partners to further serve the industry.

Major solutions provided by Synthium Health include:

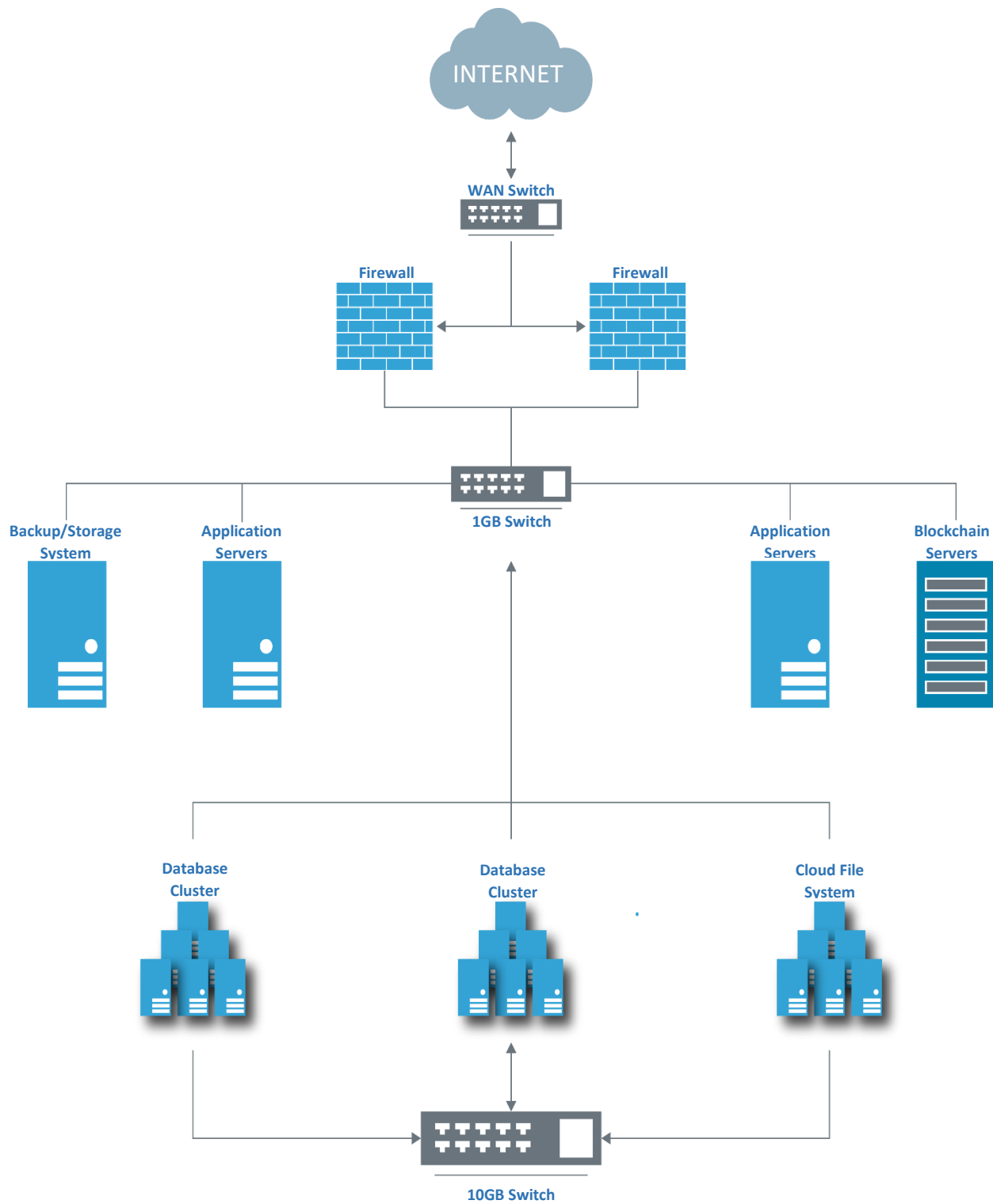
- Private block chains and inter-enterprise networks for improved security and visibility
- Integration with multiple business partners such as hospital systems, 3PL, supplier systems and more
- Manufacturers can “Go direct” and reduce operational costs
- “Just-in-time” delivery of products by integrating with hospital information systems
- Content Management to showcase and manage products and services for manufacturers
- Digital commerce for automating the processes of orders, inventory management, billing and settlements for the provider institutions
- Reporting and Analysis tool to help suppliers gain a better understanding of strategies that work and those that don’t to make better and informed decisions
- Ability of manufacturers to interact with customers for feedback and ratings to fuel product innovation/improvements
- Tool to align with global standards of delivery
- Unified healthcare marketplace will decrease counterfeits and grey-market vendors, therefore increasing patient safety and revenues of legitimate manufacturers

Unfold Enormous Potential for Your Business

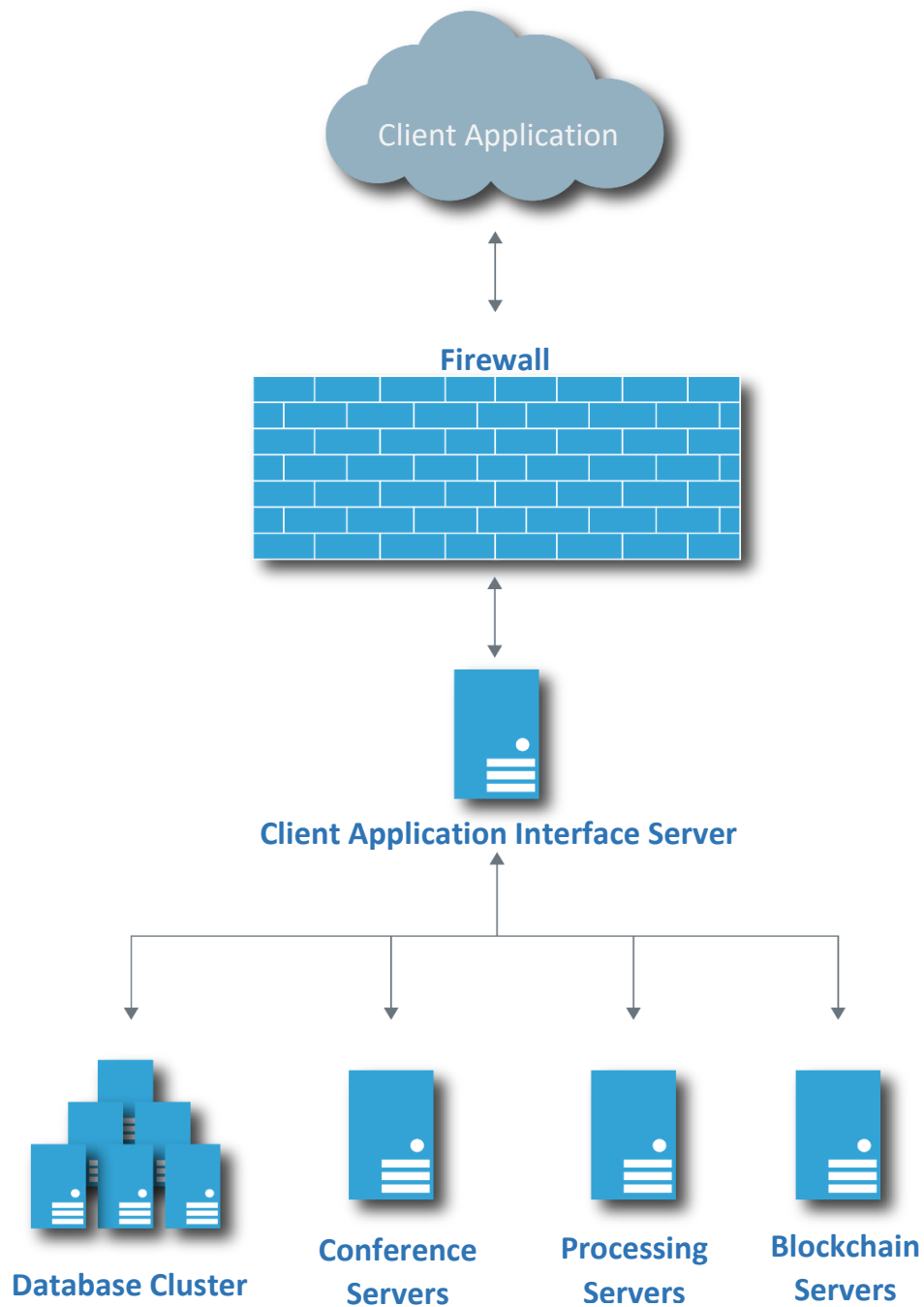


Synthium also helps buyers/providers optimize their spending, lower costs and reduce supply risks by connecting them with a network of quality suppliers for collaboration.

Synthium Cloud Architecture



Application Architecture



Synthium Health Tokens

The primary usage of the token is to register an account on the Synthium Health platform and gain membership of the portal. The Synthium token (SHP) is also the fuel for driving a secondary market via its own platform by allowing transactions using the SHP tokens in lieu of fiat currency.

SHP token account, a core component of the platform, is designed to ensure access to Synthium's platform. SHP can also be used to pay the transaction fee on the services layer and provide payments between other participants, or for market trading. A fixed number of tokens will be created during the crowdfunding/token generation event. SHP tokens will be used by the buyers and sellers to pay for trading on the Synthium Health platform using a smart-contract based system.

Registered users are given membership on the platform to set up an account. SHP can be purchased during token generation event/crowdfunding period and then through trading platforms (crypto exchanges). Tokens can also be acquired through the Synthium Health Platform or from other users of the Platform.

Currently there are 3 types of memberships:

1. Buyers (Hospitals, Physicians groups, Surgery centers, etc.)
2. Sellers (Manufacturers, Suppliers and Distributors)
3. Public – At present they will only have the ability to get membership through purchase of tokens but will be able to transact as soon as the retail platform opens up (this is currently in development).

It is also possible, that in future Synthium Health platform users may use SHP to purchase supplies or sell goods for their facilities. It will also be used for payments once smart contracts are executed with the manufacturers/suppliers and serves as a mechanism to regulate value based purchase model metrics. SHP tokens can be an alternate payment method for buyers or sellers on the Synthium Health platform. Synthium Health reserves the right to change the functionality of the tokens in the future depending on the market needs and demands as it perceives necessary.

For the US healthcare market to successfully move towards reduced healthcare expenditure, the current “go direct” option to reduce or eliminate the middlemen is the right direction everyone can steer towards.

The value based purchasing program, which is administered by Centers for Medicare & Medicaid service (CMS), marks an unprecedented change in the way Medicare pays hospitals for their services.

Under this program, hospitals will receive incentive payments based on how well they perform on twelve clinical process measures and nine patient experience measures or on how much their performance improves relative to a baseline performance period. It is expected that the cost of supplies, medical devices and equipment will be reduced, since a decision will be made as to whether the hospital should purchase generic or branded versions of these materials. Synthium's value based supply chain management renders supply cost savings allowing the hospitals/providers to effectively track real time price purchasing accuracy.

Our proposal renders the ability for providers to transfer tokens to manufacturers in exchange for purchase of supplies. The ability to seamlessly track and manage smart contracts in which the benefits can be redeemed with significant ease provides the necessary tool for providers and manufacturers/suppliers to actively engage in a symbiotic collaboration. On the contrary, if one or more participants falter, appropriate penalties (via liabilities) can also be levied with similar ease. Additionally, performance based incentives can be offered in the form of tokens to different trading partners in the Synthium Health platform. This approach will provide the necessary push that is needed to shift the healthcare supply chain from a multi-layered, bureaucratic, expensive mindset to a lean, efficient and affordable one. Henceforth, Synthium issued tokens (SHP), is the native token of the Synthium platform. In exchange for SHP tokens, users will be able to use the platform to transact effectively and execute supplies specific smart contract payments and transactions.

We firmly believe that using a token is the best payment system to support this infrastructure for the foreseeable future. The future is a vibrant ecosystem of many tokens, for which healthcare will need a closed loop payment system in place. The result will be an efficient supply chain management positive feedback loop with significant decreases in billions of dollars currently attributed to supply chain ecosystem.

Suppliers (Manufacturers) or any other user will have the option to receive the token in lieu of standard currency for the sale of their products and the buyers will have the option to pay using a (SHP) token. This feature will be particularly suitable for international manufacturers, who currently wait long periods of time for payments to be cleared through the regular banking channels. Therefore, the value of the tokens is tied to the volume of transactions executed in the network. As the Synthium network consistently

increases in token transactions the demand for the token increases, resulting in an increased value.

Token Acquisition

SHP can be acquired during the Token Generation Event, after the end of the TGE, through cryptocurrency markets/exchanges or via transfer (through the Platform or from other users of the Platform). Platform users will have the ability to acquire SHP by sending Ethers/Waves/Bitcoins to the SHP account on the Ethereum blockchain during the TGE. The Synthium Token initial distribution will be in the form of a TGE. 15% of these tokens will be reserved for the option pool to be used for rewarding current and future employees as well as business advisors. These tokens are subject to a twelve-month holding period.

TGE Details

Conditions*

Token Name	SHP (Synthium Health Platform)
Represents	Platform membership, Settlement of transactions
Number of Tokens	1 Billion
Token Platform	Ethereum
Starting Date	November 21 st , 2017**
Ending Date	December 21 st , 2017**
Terms and Conditions URL	https://tge.Synthiumhealth.com

* All conditions can be changed before the TGE

** Dates are subject to change, visit our website for updates

Immediate Goals:

- Establish Private Blockchain Network and save transactional information in blockchain alongside database systems.
- Establish Retail Medical Supplies Platform so that individual users can purchase certain products (direct-to-home).
- Starting regionally in the South-East USA, serving between 20-50 hospitals, managing the supply chain for major suppliers of orthopedic implant products.
- Build field management team with the responsibility to hire, train and manage new hires in their newly assigned regions, as the company expands nationally.

- Locate and pursue synergistic businesses for acquisitions.
- Signup domestic and international suppliers, along with providers (hospitals and surgery centers).
- Continue to enhance the features and functionality of the platform.

For more information, please visit our site at www.synthiumhealth.com and send across your queries at <http://www.synthiumhealth.com/contact/>.

We will be happy to serve you!