

Sangfor SD-WAN Case Book For FSI

SANGFOR Technologies Inc.
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SD-WAN Case Book for FSI

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Scenarios Summary

Name	WAN Type	Scenarios
Pegadaian	VSAT	<ul style="list-style-type: none"> ● VSAT link acceleration ● Financial and VOIP system acceleration
Koperasi Nusantara	Hybrid WAN	<ul style="list-style-type: none"> ● Broadband Replace MPLS ● Financial system acceleration
Investcorp	Leased Line	<ul style="list-style-type: none"> ● Financial system acceleration ● Data recovery system acceleration
Avrist Assurance	MPLS VPN	<ul style="list-style-type: none"> ● Office application acceleration ● Data recovery system acceleration
Funan Securities	MPLS VPN	<ul style="list-style-type: none"> ● Data recovery system acceleration
Trimegah Securities	MPLS VPN	<ul style="list-style-type: none"> ● Office application acceleration ● Data recovery system acceleration

Notable FSI Customers



safety insurance
 บมจ.ประกันคุ้มภัย

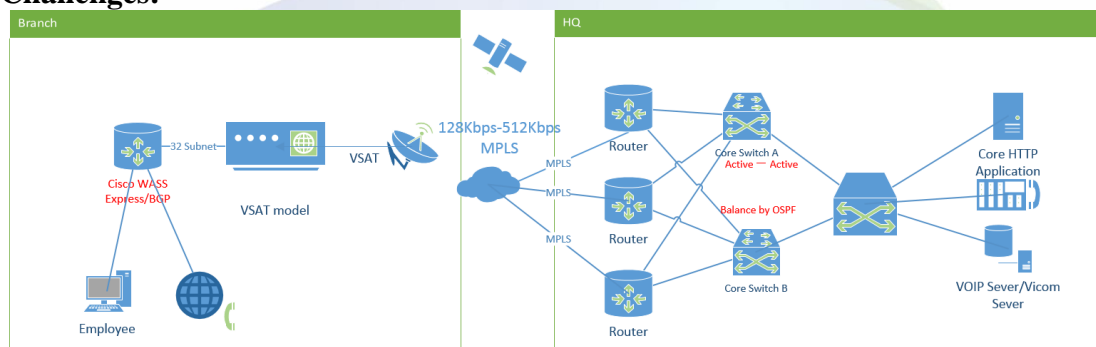


Pegadaian



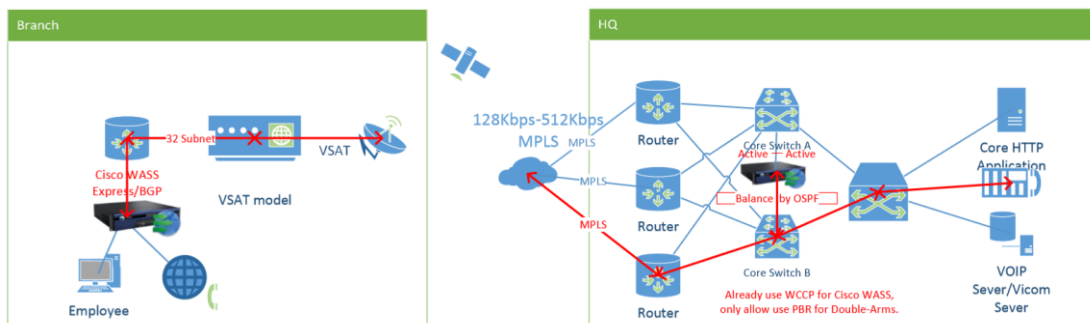
Pegadaian is an Indonesian financial sector BUMN that operates on three lines of business, namely financing, gold and various services. Pegadaian have 4,319 branch office around Indonesia.

Challenges:



- Core business system have a slow experience in VSAT environment, the Bandwidth that using by Pegadaian for VSAT is 128 Kbps
- Many Packet Loss and Impacting the VoIP Traffic

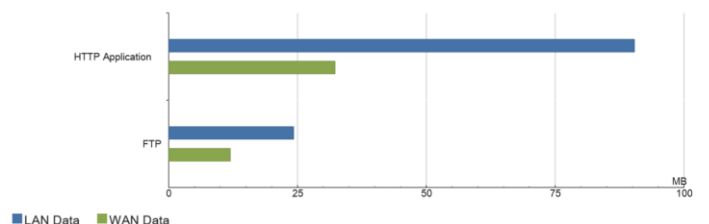
Sangfor SD-WAN Solution:



- ✓ Do a Data Reduction between Sangfor WANO when running the business application traffic
- ✓ Enable the accelerating application at Sangfor WANO to make application running faster that would be impacted to improve user satisfaction and Improve work efficiency as well.
- ✓ Do a UDP Optimization to reduce packet loss in VoIP traffic

Sangfor SD-WAN Values:

1. Enhance VSAT link throughput



	Name	LAN Data	WAN Data	Reduced	Reduction Ratio
1	HTTP Application	92,602 KB	33,099 KB	59,503 KB	64.26%
2	FTP	24,872 KB	12,297 KB	12,575 KB	50.56%
	Total	117,474 KB	45,396 KB	72,078 KB	61.36%

*.For HTTP application it reduce around 64%, Traffic from 92M became 33M, it means that we have bandwidth 128Kbps but experiencing have a bandwidth around 370Kbps.

*.For FTP application, it reduce around 50%,Traffic from 24M became 12M , it means that we have bandwidth 128Kbps but experiencing have a bandwidth around 370Kbps.

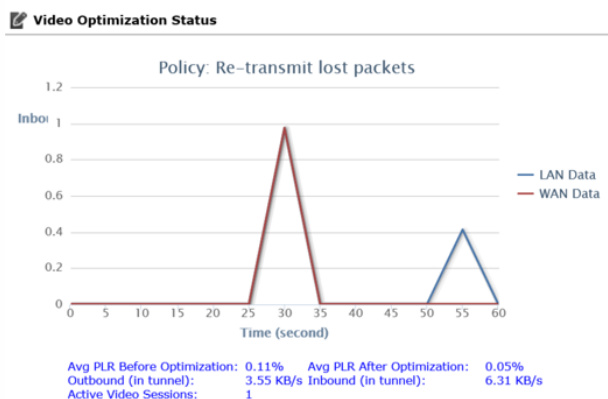
2. Improve application speed

	Without Sangfor WANO	With Sangfor WANO	Improvement
Open Passion Konven	52s	5s	940%
Login Process	14s	11s	21%
Data Inquiry	9s	2s	350%
Open Galeri 24 System	61s	44s	39%
Login Process	5s	3s	67%
Inquire	7s	2s	250%
Open MIS System:	7s	5s	40%
Login Process	37s	15s	147%
Inquire Data	17s	10s	70%
Open FTP System	14s	14s	0
Download file 256KB 1st time		22s	
Download file 256KB 2nd time		7s	214%
Download file 11830KB 1st time		540s	
Download file 11830KB 2nd time		27s	1900%

*. 3 core system with 3 process : Open login page, Login process, Data Inquiry

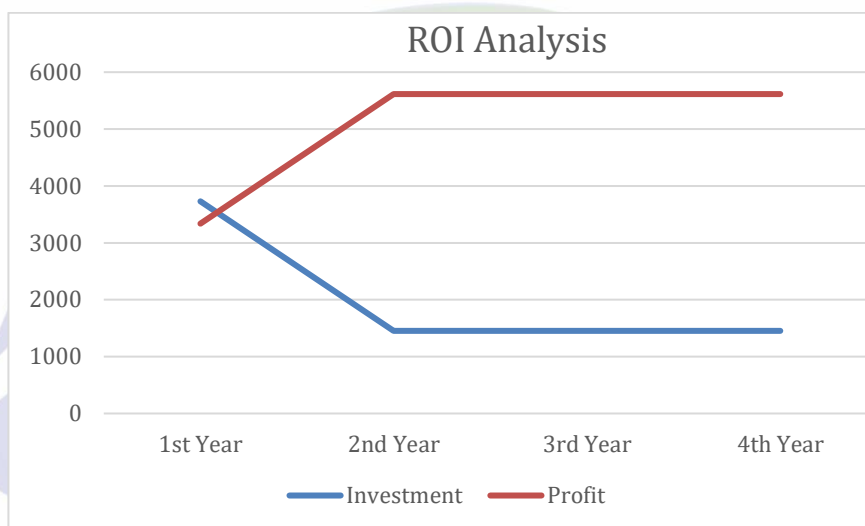
*. Speed up the core business application from 21% to 940%

3. Reduce 2 times video conference packets loss



4. Cost saving

	1 st Year	2 nd Year	3 rd Year	4 th Year
Upgrade bandwidth to 256K	\$ 7,068	\$ 7,068	\$ 7,068	\$ 7,068
WANO Solution	\$ 3,730	\$ 1,453	\$ 1,453	\$ 1,453
ROI	\$ 3,338	\$ 5,615	\$ 5,615	\$ 5,615



Investcorp



Investcorp is a global manager of alternative investment products, for private and institutional clients. Founded in 1982, the firm has offices in New York, London, Bahrain, Abu Dhabi, Riyadh, Doha, Mumbai and Singapore. Investcorp's principal client base is in the six countries of the Gulf Co-operation Council, but it also has institutional clients in North America, Europe and Asia.

The company's main activities involve corporate investment, real estate and credit management, and has \$34.2 billion worth of assets under management, as of 2019.

Business Challenges:

The business nature of wealth management institutions such as Investcorp requires that their network systems must be secure and stable across the board, ensuring data security and business continuity.

1. The company's core financial system is based in Bahrain and all customer account information and some applications are also stored in data center, But many users visit from in New York and London and their application experience are very poor.
2. Guarantee the availability of payment and other financial system is the most important work of IT department, any longer downtime will bring serious consequences.
3. The company deployed disaster recovery system in London, which requires a huge bandwidth for data backup. Investcorp has a 4Mb/s leased line from Bahrain to London but they have 48-50GB data need to be transferred every day. How to build a high-efficient disaster recovery system is a challenge for Investcorp.

Solutions Analysis:

1. Upgrading bandwidth is an alternative, but the bandwidth costs from Bahrain to London is very high, costing ten times even more from the Middle East to New York than from London to New York. Therefore, any bandwidth increase will bring a huge cost to Investcorp and the link latency issue can't be solved by bandwidth upgrades.
2. Considering the stability of network, Investcorp hopes the new solution must work well with the existing network and doesn't requires too much network changes.

Sangfor SD-WAN Solutions:

- ✓ Sangfor use transparent mode deploy WANO in network without any network changes.
- ✓ After WANO byte cache and application acceleration process, the Data transferred in WAN reduce 60%-70% off, the link throughput get 2-3 times enhanced and the transmission time decrease more than half.

Sangfor provides free trial for Investcorp to evaluate whether the solutions comprehensive meet their needs, after testing several similar vendors, Investcorp choose Sangfor.

PT Avryst Assurance

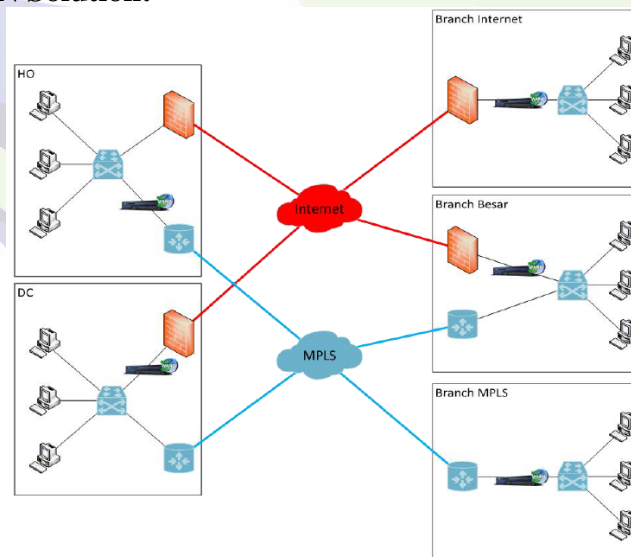


PT Avryst Assurance (Avryst) is the first joint venture life insurance company in Indonesia that has been established since 1975, Avryst Assurance continues to grow into one of the leading life insurance companies that can compete in the life insurance industry in Indonesia.

Business aspect:

Avryst need solution to replace their existing MPLS to Internet link for efficiency
 Avryst want to optimize the acceleration packet from Branch to DC or from Branch to HQ. For example

Sangfor SD-WAN Solution:



Sangfor WANO can optimize very well for Avryst Print, Multi Billing Application (using Compass 2000).



Funan Securities



Funan Securities (FNS) is a local securities company with a long history in Vietnam. Funan Securities creates maximum convenience for customers and partners by providing diversified and qualified securities and financial services. Funan Securities Maximizes the profits of company shareholders and contributes to the prosperity and development of the Vietnamese stock market. It's an ideal company for professionals working in the securities field.

Business Challenges:

Recently, Funan Securities was acquired by Silver Shores Investment Group. With the new business vision and development, the existing IT infrastructure was facing many challenges.

- In the past decade, the existing infrastructure in the Data Center kept growing in the traditional way, making it more and more complex and fragile.
 1. Long TTM and performance bottleneck
 - The infrastructure and system of data center was not scalable, with different devices staking together. Therefore, it took 1 - 2 hours when they backup SQL database or run data end of day.
 - The existing infrastructure was quite old, mail service, web service and database run in standalone servers with interface supporting only 1 Gbps, that cause low transmission between server and make the serious effect to business.
 2. Only two IT operation staff have to manage up to 50 servers and more than 20 network devices. Up to 80% of the time was spent in daily operation and maintenance.
 - With different devices deployed in the traditional way, there was no unified or effective monitoring platform. Therefore, it is unable to monitor and manage the DC O&M comprehensively.
 - Since there is too many hardware from different brands, it was very difficult and complex for the IT department to maintain all the devices and systems.

- There was no visibility in the network management. Every time when a new device was added to the network, it took a lot of time to do the configuration on different devices.

3. Lack of Protection for Business Data

- Since most business applications were still running stand-alone servers in the traditional way, if one server went down, related businesses will be interrupted, resulting in immeasurable impacts and losses.
- Once any data is deleted logically or logical error occurs to any data due to mistakes, they cannot be recovered.

4. Increasing Investment in the Data Center

- As there are more and more devices in the server room, there is higher requirement for server room space, air conditioning, UPS, etc.
- All the traditional storage require high investment and follow-up maintenance.

- The network security protection capabilities was very low. Previously, only traditional Cisco ASA Firewall was deployed and running for almost 10 years. There was no enough protection against application-layer security threats and complicated in configuration.

1. Inadequate comprehensive protection

FNS was easy to suffer from different attack vectors such as corporate espionage, malicious code, deauthorized access, DoS attack, etc. Especially against application layer attacks, they were unable to defend without the security system upgraded.

2. Complex security analysis

FNS business kept growing, so they had a lot of pressure on logs, which made them unable to respond to security incidents and reduce risk rapidly.

3. Lack of security dynamic awareness

With the expansion of the company, the IT infrastructure must also be upgraded accordingly. At the same time, new security vulnerabilities have also been brought into their network.

4. Data security transactions between sites

FNS was operating with multiple branches, so the connection between main sites must be secure. Key information such as sales and financial data transmitted among sites must be protected.

- FNS has many branches. The speed for the branch users to connect to the ERP system and receiving mail is very important for the success of business.

1. Limited bandwidth and high cost of the leased line:

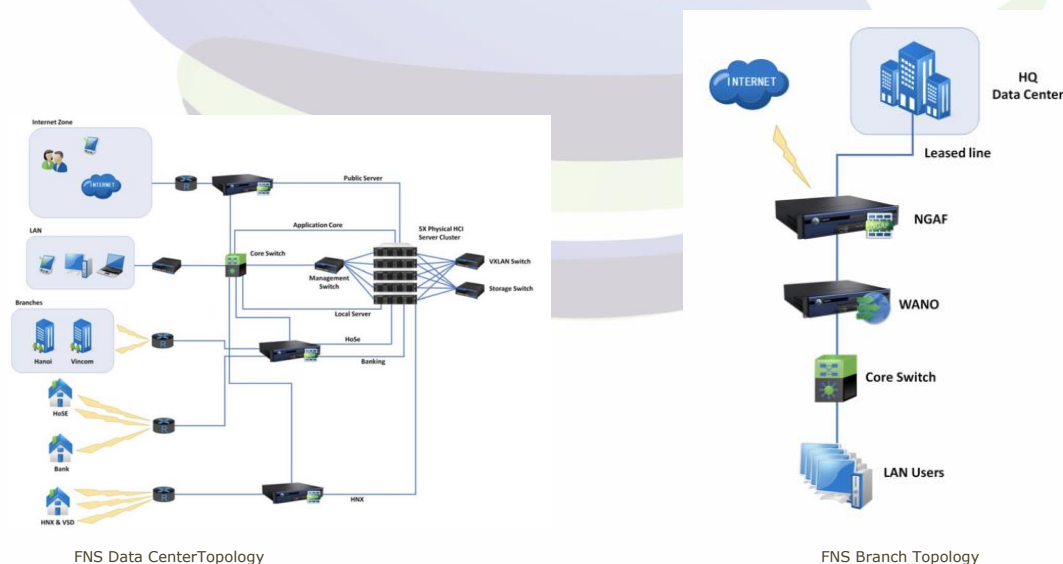
Although FNS has been using the leased lines between main sites, with business growth, the bandwidth became more and more insufficient. While increasing the bandwidth of leased lines would be very costly.

2. No QoS for core applications:

Most of FNS's internal business systems and file sharing servers are managed at the data center. Normally, it takes more than 10 minutes to download a 10M file and to access the core applications also cost a lot of time. The staff spent most of their time to wait, which seriously affected work efficiency.

Sangfor Solution:

Based on FNS' challenges, Sangfor designed a total solution for them. In this solution, 5 nodes of HCI servers were designed to replace 36 legacy servers; 2 unit of Next-Gen Application Firewall (NGAF) with WAF module enabled were deployed in the Intranet Area for full protection, which can achieve HA, and another NGAF was deployed in the Internet Area to perform as a Security Guard in the gateway; 3 units of WANO were set up between DC and 2 main branches in Hanoi and Da Nang to accelerate the link experience.

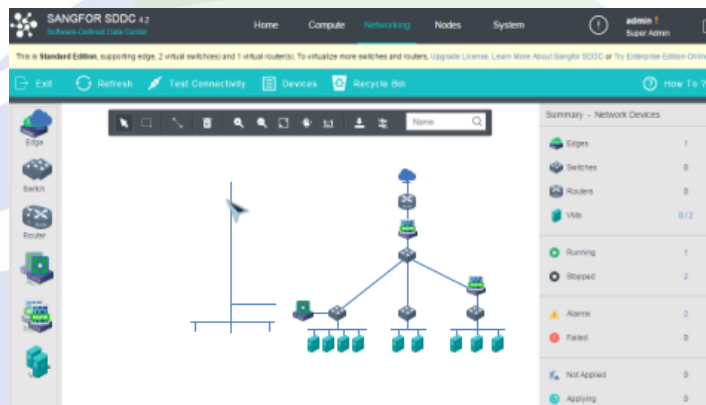


✓ Sangfor HCI

In Sangfor HCI solution, 5 physical servers are combined to build one logical resource pool with full feature aSV, aSAN, aNet and CDP enabled.

On Sangfor HCI platform, all virtual machines are running with High Availability and high performance, which could greatly enhance the availability and efficiency of business systems.

In addition, Sangfor virtual network platform allows users to seamlessly design or create their own virtual topology from the console. With the “what you draw is what you get” ability, FNS can add or remove virtual routers and switches as needed, and to connect or disconnect these servers in any way.

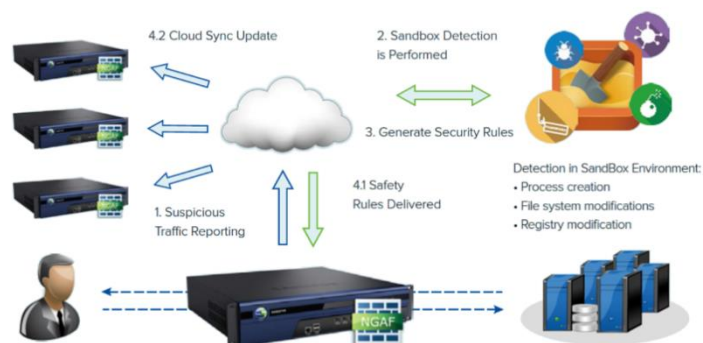


“What you draw is what you get” topology console screen

Sangfor HCI provides a virtualization platform for servers and storage, and it greatly reduces the workload of the IT team's server maintenance tasks. In addition, the virtualization platform also greatly improves performance because all these resources (such as CPU, memory, and storage) do not have to go through multiple internal network layers.

✓ Sangfor NGAF

Sangfor NGAF solutions can protect FNS’ online data transactions and secure its web applications hosted on its servers.



Cloud Sandbox of Sangfor NGAF

1. Next-generation converged security

Sangfor NGAF provides the converged security ability with next-generation firewall, WAF, IPS, and security visibility for FNS. Powered by AI technology, Sangfor SAVE Engine can enhance the security of FNS with dynamic detection, intelligent analysis and fast response against new emerging threats such as ransomware.

2. Comprehensive reporting and automated log analyzer

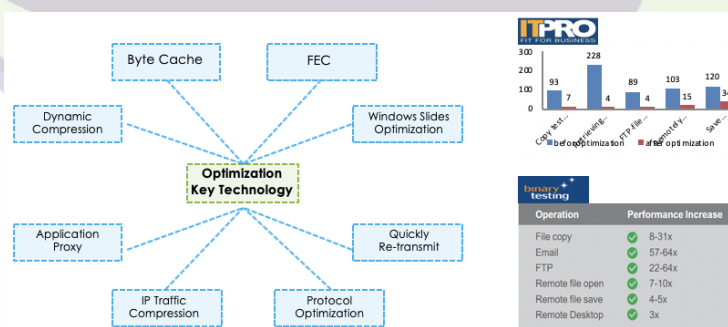
Sangfor NGAF makes it easy for FNS IT department to learn about security incidents and mitigate and respond to risks in a short period of time.

3. Assess the overall security of the entire network

NGAF provides signature-based security protection for FNS. With the help of PVS, Web Scanner, and Dynamic Recognition, NGAF actively identifies new business assets or updated business assets through the Sangfor Business Recognition Engine. After discovering asset changes, it will automatically execute Evaluation of Change Assets.

✓ Sangfor WANO

FNS deployed WANO with bridge mode in Hanoi and Da Nang, and with gateway mode in the data center in HCMC. With Sangfor unique technologies in the "acceleration channel", such as byte buffering, compression, and application agents to reduce bandwidth consumption, the speed to access the key applications is optimized by 70% and time to download files in the branches is reduced by up to 85%.



Best User Application Experience

Key Values:

1. One-stop solution from Data Center to network security & optimization
2. Easy to use, excellent visibility in security, network and core applications
3. High Performance, no bottleneck on business applications
4. Easy to scale out, lower TCO with better user experience
5. Service-level reporting ability for Data Center and network security

Trimegah Securities



PT Trimegah Securities Tbk is a Security Company which has 3 business units and 1 subsidiary:

- Equity Capital Markets

(ECM) Division provides equity brokerage service, including online trading, for retail and institutional clients, and margin lending facility

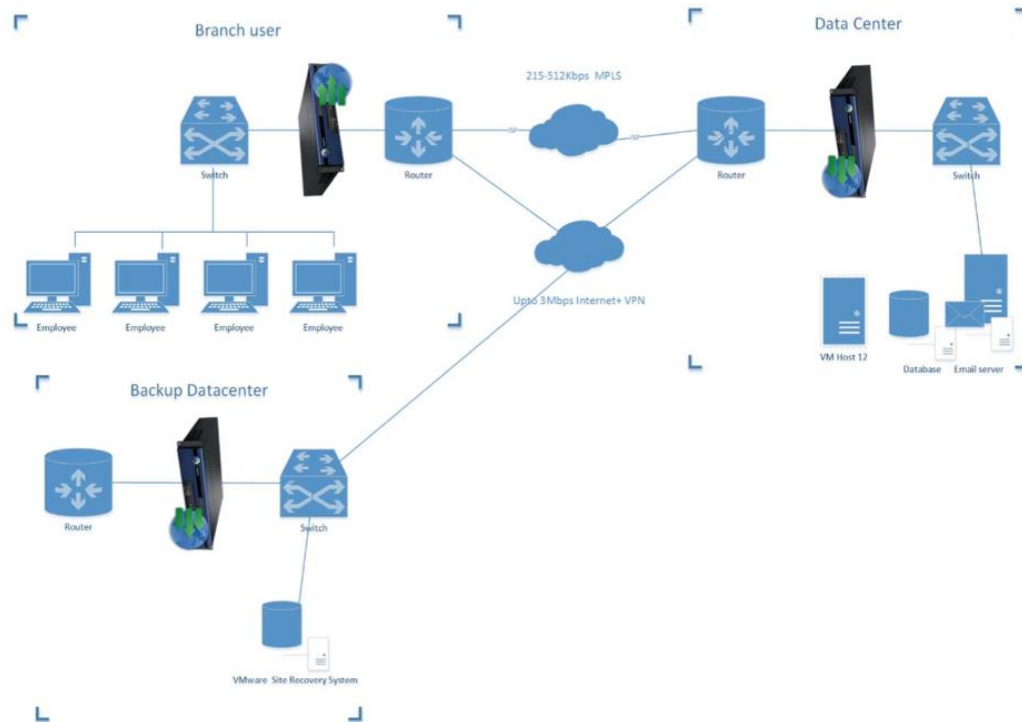
- Debt Capital Markets (DCM) Division facilitates government bond transactions, including Retail Government Bond, Retail Sharia Government Bond, and corporate bonds

- Investment Banking (IB) Division provides bonds and equity underwriting service as well as financial advisory, including merger & acquisition, divestment, valuation, due diligence, corporate restructuring and financing

Business Challenges:

- Bandwidth Management: Bandwidth is limited between HQ and branch which affects work activities
- Long-Term RTO: 4 hours to back up 1 host from DC to DRC which increases dangers of data

Solutions and Key Values:



- Application Optimization: Speeds up applications response and supports all branches and DRC's optimization and management, user identify and control
- Performance Improvement: RTO is decreased to 15mins from more than 4 hours
- Internal Report: Initiatively and efficiently monitors host trac, user trac of every branch
- TCO Saving: 2K less as renewal cost