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James Kang  
CIO

## Enlivening e-Lifestyle through Effective Web Traffic Management Tools

### Industry:

Life and General Insurance

### Challenges:

- Able to handle heavy traffic
- Scalable to meet anticipated future user traffic

### Solution:

F5’s BIG-IP® load balancer

### Benefits:

- Improved security
- Intelligent task-to-server assignment
- Scalability and flexibility
- Enables administrators to extract information from data streams and to subsequently make intelligent business decisions
- Ensures high availability and business continuity through server/application health monitoring and failover

### Overview

Formed in 1970, NTUC Income has grown to become a leader in Life and General Insurance with more than 1 million policyholders and assets of more than S\$10 billion. However, as trends of globalisation and deregulation began to change the landscape in the insurance industry, coupled with increasingly knowledgeable and demanding consumers, the co-operative (co-op) felt that the only way to remain competitive was to use technology as a strategic tool.

NTUC Income thus decided to upgrade its backend system to second-generation products and services, from a standard system to a web-based system built on an open architecture, thereby transforming the company into a modern enterprise with the ability to interact with their customers and employees in any manner they prefer.

The Big Trumpet website is one of the initiatives under the co-op’s mission to improve the quality of life for its members. It is a one-stop e-portal for members to do almost anything, from finding a plumber to finding a job or filing income tax. It offers a diverse range of services from the private to the public sectors, and handles a substantial amount of traffic as a single,

consolidated point of entry to most of the co-op’s online services.

Even though the infrastructure in place was already sized to handle the forecasted load, NTUC Income felt that there was a need to have an intelligent Web optimisation tool to manage and cater to the greater influx of traffic expected in the future.

As such, NTUC Income turned to F5 Networks for an effective solution.

### Challenges

The Big Trumpet website currently plays host to more than 225,000 registered users and it receives hits from an additional quarter of a million non-members. Traffic is expected to increase even further, as more Singaporeans begin to embrace an e-lifestyle.

It is therefore imperative that NTUC Income be able to easily scale their applications by adding more servers to the existing server pools in response to growing demand, without having to worry about traffic overload or routing headaches.





## Solution

After some discussions and product comparisons, Hewlett Packard (HP), which is the co-op's main system integrator, suggested and proceeded to implement F5 Network's load balancer — BIG-IP, to act as a single integrated platform to handle both Web traffic management and Secure Socket Layer (SSL) acceleration.

"One of the reasons why we chose BIG-IP is because of the integrated traffic management and SSL termination functionality that comes with all BIG-IP Application Switch," said James Kang, CIO, NTUC Income. The co-op deploys SSL, which is currently the standard of trust in the Internet, to ensure secure communication between client browsers and servers.

With BIG-IP, there is better control over the security of traffic entering and leaving the Website.

"In addition to offloading SSL transactions from the web servers, BIG-IP has the intelligence to determine the most appropriate server to handle requests from specific customers. More importantly, its deep packet inspection enables us to extract valuable information from data streams and to make intelligent decisions based on our business policy," Kang commented.

The flexibility that NTUC Income requires is also met by BIG-IP. Big Trumpet's massive subscriber base expands by the day, and although this may be seen as a healthy trend for the co-op, it throws up a serious challenge: the ability to deal with exponential and sudden increases in demand. With BIG-IP, NTUC Income can easily meet this challenge by simply adding more servers to their existing server pools.

Currently two F5 load balancers manage and balance all Web traffic going into the data centre hosted at HP's data centre. The pair provides failover for each other and in turn, greater availability for the Web services, which includes providing both the services on Big Trumpet available to the general public as well as some intranet applications that are opened only to Income users. Having two BIG-IP load balancers is a disaster recovery measure that ensures business continuity just in case anything were to happen.

"The Big Trumpet Website is also constantly evolving and we are launching more (transactional) services from time to time. It is precisely because of this dynamic nature of the traffic pattern and requirements that the F5 solution is put in place to cater for such traffic growth and changes," Kang emphasised.

No organisation can afford downtime, especially for business critical applications. BIG-IP helps ensure high availability and business continuity for NTUC Income by constantly monitoring the health status of each server/application and directing incoming requests to the best performing server in the fastest time. This way, all requests can be attended to in the shortest possible time, thereby enhancing customers' satisfaction, escalating employees' productivity, and ultimately elevating the corporate image as a whole.

BIG-IP's flexibility is most apparent in that it can be integrated into the existing infrastructure with minimal disruption. The load balancers were installed in less than two days with virtually no change to the existing servers and network configuration.

## Conclusion

NTUC Income is certainly planning for its IT in a big way by actively looking into the market for solutions which can maximise and scale their application and services provided to the public much more efficiently, improving customers' experience and ultimately, increasing the quality of business transactions. With the use of F5's BIG-IP solutions, NTUC Income is much closer to achieving this!

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