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Gustaf Selén  
Security Architect, Crosskey Banking Solutions

## Crosskey Supports Business Expansion And Improves User Experience For 500,000 Customers Using BIG-IP Local Traffic Manager

Founded in 2004, Crosskey Banking Solutions is an Application Services Provider (ASP). Crosskey focuses on developing and providing forward-looking business offerings in areas such as online banking and card systems.

With its main market in the countries that make up the Nordic region (Finland, Sweden, Denmark and Norway), Crosskey has 150 employees and a turnover of €22m (2008). Fully owned by the Finnish bank Ålandsbanken, Crosskey has offices in Mariehamn, Turku, Helsinki and Stockholm.

As well as Ålandsbanken, Crosskey’s customers include the well-known banks, Tapiola, S-Pankki and eQ-pankki. The end-users of their services, and therefore of Crosskey’s solutions, number approximately 500,000.

Crosskey was looking for a way to support expansion of its customer base and, consequently, the number of end- users served. The aim was to achieve this without growing its server farm or increasing the complexity of its IT systems. Enhancing the company’s adherence to industry security standards such as PCI DSS was also a requirement.

F5 BIG-IP Local Traffic Manager devices were purchased and implemented in conjunction with VMware virtual servers to meet these needs. Customer applications such as online banking and bank card applications are faster, more stable and scalable as a result. In addition, Crosskey has saved on hardware, energy and personnel costs.

### Business Challenges

As Crosskey took on new banking customers, the resulting expansion of operations put its IT infrastructure to meet the flexibility, availability and response time needs required by 5,000 - 10,000 simultaneous customer connections and up to 20 SSL throughputs per second.

“In addition to home banking, our online applications are also used for stock trading. They must work 24/7. Even more important is the bank card traffic. All cards must work the instant they are used. With our old system, we had to reboot everything every week to meet these requirements.” says Gustaf Selén, Security Architect of Crosskey.

### Overview

#### Industry

Banking and finance

#### Challenges

- IT support of Crosskey’s business expansion
- Increase capacity and agility of IT infrastructure without increasing complexity
- Adherence to common security standards such as PCI DSS

#### Solution

- F5 BIG-IP Local Traffic Manager

#### Benefits

- Improved user experience
- Flexible and agile load balancing of banking applications
- Hardware and energy cost reductions

#### Partner

LAN&WAN

Crosskey has hundreds of servers and systems that are configured for remote mirroring between two data centres. Previously, each banking customer had its own dedicated server for each application. Continuing to build out the supporting infrastructure in the same way after Tapiola came on board would have been far too costly an option.

"Installing SSL cards and more memory to new servers would have been very challenging. We had two alternatives: acquire more servers for each new client application instance, or find another way to meet the increasing availability and response time requirements," comments Selén.

#### Solution

"We wanted a system which is easy to implement and maintain, and that would enable us to expand our business. With our technology partner LAN&WAN, we designed a system that meets our current business needs and gives us room to expand." Selén explains.

Crosskey's chosen solution has two main, integrated facets:

- Application delivery traffic is now dynamically balanced and routed using F5
- The utilisation rate of hardware has been increased through adoption of VMware virtualisation technology.

After an extensive planning and requirement analysis phase, Crosskey decided to implement the BIG-IP LTM platform from F5 Networks. BIG-IP devices have been installed in Crosskey's twin data centres to intelligently route and balance the load of application traffic. VMware technology has been implemented in tandem to virtualise Crosskey's Sun application servers.

In total, Crosskey implemented four BIG-IP devices. Two BIG-IP 1500s were deployed to route and balance bank card application server traffic. A pair of - more powerful -

6400 series appliances were implemented to deal with online banking application traffic.

"BIG-IP makes application delivery something that can be very flexible. Because the SSL protocols required by banking and finance application standards are understood and managed on our BIG-IPs, our IT system is easier in turn to administer and manage, and more stable than ever before," Selén comments.

Selén is very pleased with the F5 solutions and implementation. The down-to-earth and no-nonsense approach of F5's Finnish team made deployment and day-to-day usage easy: "Managing banking application traffic may not be a hot topic but it is extremely critical. The F5 platform is remarkably good. Most importantly, F5 continuously develops their technology to match the requirements of the banking industry." Selén says. "The installation was fast- we had the F5 devices up and running in one evening. A little tweaking was required, but they have worked like a charm ever since."

#### Benefits

Since implementing F5, Crosskey's customers have experienced improved application speed, stability and scalability. For Crosskey, the need to purchase more servers to provide services to an expanding customer base that generated increasing traffic loads was averted. Virtualisation enables Crosskey to maximize and optimise hardware and energy usage. The simpler IT environment facilitated by the use of F5 means less time is required for maintenance.

"We have hundreds of servers in our two data centres. Each additional server costs thousands of Euros and, given we would have had to almost double our server farm size, the saving we made by adopting F5 easily runs into six figures." comments Selén.

"The best thing for us is the positive feedback we've received from our customers. That's really unusual when you introduce new IT services. We're hearing people say 'this was fast before, but now it is even faster'." Selén continues.

The F5 appliances also improved the security of Crosskey's services. F5 appliances meet PCI DSS security standards, so all Crosskey's web servers now have an additional layer of network traffic security.

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#### The future

Crosskey is planning to deploy of F5's Application Security Manager - a software add-on module to BIG-IP that secures and optimises Web application traffic. Crosskey is also planning to take further advantage of F5's TMOS architecture, which underpins the BIG-IP platform, to examine additional ways to manipulate and control client application traffic to achieve specific business benefits.

"We want to offer the best possible services to banks. For example, our customer S-Pankki has two million potential online customers. F5 technology is so scalable that I am confident we will be able to manage these even these levels of traffic volumes without any problems." Selén concludes.

F5 Networks, Inc. 401 Elliott Avenue West, Seattle, WA 98119 888-882-4447 www.f5.com

F5 Networks, Inc.  
Corporate Headquarters  
info@f5.com

F5 Networks  
Asia-Pacific  
info.asia@f5.com

F5 Networks Ltd.  
Europe/Middle-East/Africa  
emeainfo@f5.com

F5 Networks  
Japan K.K.  
f5j-info@f5.com

