Virtualizing IT infrastructure and enabling secure delivery of services

**Industry**
- Financial

**Objective**
- Help the Development Bank function more efficiently and fulfill its mission by virtualizing and optimizing its IT infrastructure. Also, enable the security and IT teams to work together more productively toward their common goals.

**Approach**
- Use HyTrust Appliance to control access as virtualization breaks down “walls”
- Lock down devices in the virtual infrastructure to eliminate tampering
- Separate management and application networks
- Decouple hardware from operating system for superior deployment of new hardware

**Technology improvements**
- Keep legacy Windows NT systems running
- Streamline recovery and backup
- Control access as virtualization breaks down walls
- Enforce policies effectively and conveniently
- Help security and IT work more closely

**Project outcomes**
- Gained a means to deploy new hardware
- Leveraged Windows NT systems investment
- Enabled continuous availability and fault resolution
- Saved costs and reduced complexity through consolidation
- Ensured security of the virtual infrastructure
- Moved toward self-service
- Heightened convenience and security

HyTrust enables a major European financial institution to work more effectively in addressing complex refugee needs

Founded in the mid-twentieth century with a mission to help solve the complex problems of refugees, this Development Bank (the “Development Bank”) is a multilateral institution whose broader purpose is to strengthen European social cohesion. With more than three dozen member states, the Development Bank is a major instrument supporting the goal of European solidarity and helping its members achieve sustainable, equitable growth.

The Development Bank addresses the challenges of Europe’s most disadvantaged groups, helping to improve their living standards, finance social projects, and respond to emergencies. The Bank has three lines of action in fulfilling its socially-focused mandate to:

- Strengthen social integration
- Manage the environment, and
- Support public infrastructure with a social vocation

Because of its humanitarian purpose and the need for its services, the Development Bank occupies a unique position in Europe, with a broad geography of shareholders.

**The challenges of legacy systems**
The virtualization program at the Development Bank began about seven years ago, with an effort to simply replace outdated hardware. The Bank had invested in a Windows NT-based system, whose outmoded servers were now incompatible with newer, faster...
hardware. The Development Bank wanted to preserve the value of its investment, but the new hardware did not support its operating system.

The bank stood to lose not only the entire value of its legacy system—but also to incur the additional expenses of purchasing and implementing new hardware and software, along with training costs—all of which could interfere with the bank’s urgent core humanitarian purpose and projects.

The virtualization solution
Here, the utility and wisdom of virtualization becomes evident. By using virtualization to decouple the hardware from the operating system, the Development Bank could effectively deploy new hardware while keeping their Windows NT systems running on top of the VMware-based hypervisor. This approach was successfully undertaken.

A year later, the Development Bank discovered yet another benefit of virtualization—easy system recovery and backup. Because of this substantial benefit, the bank decided to expand its virtualized environment to encompass a major component of its disaster recovery program. Now, in addition to the original NT systems, new elements of its IT infrastructure were moved to the virtual environment. Within a year, the bank began to consolidate systems, moving from an initial 1:1 ratio to an impressive 15:1 ratio over the last several years.

Overcoming new concerns in the virtualized environment
As consolidation ratios rose, however, walls began to break down in the data center. Prior to virtualization, the consoles of various servers located within the data center could only be accessed from within—so preventing unauthorized access to the system was as simple as barring or limiting physical access to the data center itself.

The advent of virtualization made that protection ineffectual. The VMware Virtual Infrastructure Client software provides a convenient remote console from the network; but unfortunately, that convenience also introduces new risk.

While business unit owners welcomed this increased flexibility, the security and risk teams did not. The solution was to alter the infrastructure to create a “management” network separate from the “application” network in the virtual environment. This, however, addressed only part of the concern. While it enabled the separation of duties by ensuring that administrators were only permitted access to the more sensitive network, it did not provide access based on identity. This created a potential security risk.

HyTrust Appliance solves the security issue by enabling comprehensive access control
The Development Bank first looked for third-party solutions—and even attempted to set up the appropriate rules and policies within the VMware vCenter itself, but were unsuccessful in their efforts. So the Bank chose HyTrust Appliance to address its concerns around access control, policy enforcement, and compliance. By providing a secure gateway for access to the virtual infrastructure, HyTrust Appliance ensures control and consequent security. HyTrust Appliance not only supports all available administrative access methods and protocols—including vSphere Client, Web client, and SSH—it also delivers a straightforward way to enforce policy across the virtual infrastructure. HyTrust Appliance determines:

- Who is authorized to access which resources
- Under what conditions access is allowed
- Which operations can be utilized when permission is obtained
- How components within the infrastructure interact with one another

In addition to controlling access, HyTrust Appliance provides records for the virtual infrastructure that are granular, user-specific, human-readable, and audit-quality. These can be used for purposes of regulatory compliance, monitoring, alerting, troubleshooting, and forensic analysis. Finally, HyTrust Appliance assesses and remediates hypervisor configuration against regulatory templates, such as PCI-DSS.

Superior ROI, data protection and other advantages of HyTrust Appliance
HyTrust Appliance dramatically improves customers’ return on their investment in virtualization by enabling secure, accountable self-service across the entire IT ecosystem. With HyTrust Appliance, the Development Bank could confidently virtualize more of its infrastructure—including

“HyTrust is helping us gain full value from our IT investment and better fulfill our humanitarian mission.”
mission-critical systems, repositories of sensitive data, and compliance information.

With HyTrust Appliance, organizations like this Bank can properly segment their infrastructure, enforce separation of duties, gain complete visibility into changes, and provide evidence for compliance.

“We’ve been extremely pleased with the new capabilities that the HyTrust Appliance has provided to the Bank,” said the Development Bank project lead. “The improved security, self-service functions, simplified compliance—all are helping us work more effectively to assist refugee populations. It’s amazing that one solution can address so many concerns across our whole implementation.”

Enhanced ease of use and versatility
The Bank selected HyTrust Appliance because of its “plug and play” simplicity and ease of setup and configuration. IT managers were particularly impressed by the ability of HyTrust Appliance to log every activity and control access to everything inside the virtual infrastructure. Considering the intense regulatory scrutiny that the Development Bank is subject to, it is essential that it enable total, granular separation of duty between the Bank’s security team and the rest of its production administrators.

The security team found additional value and peace of mind in knowing that the virtual security devices in its virtual infrastructure could be locked down to eliminate the possibility of tampering, especially with respect to the logging environment.

Solving security and compliance issues—with major business benefits
It is critical to the Bank to be able to demonstrate the integrity of HyTrust Appliance to its external auditors, which has proven to be of substantial benefit to the institution. Currently, the security team, led by the Chief Security Officer, and the IT team are able to work better together to achieve their common goals. Given the success of the entire virtualization effort, the Development Bank now plans to hand over total console access for all virtual machines to the business units, which will enable secure and cost-efficient self service.

Learn more about HyTrust at www.hytrust.com or call us at 844-681-8100.