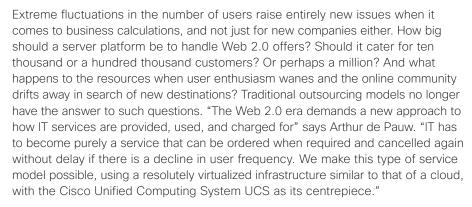# Thales launches Cisco Unified Computing System

IT cloud for the Facebook and Twitter generation

Operations Manager Arthur de Pauw

The Cisco Unified Computing System™ (UCS) celebrated its launch in Austria at the Vienna-based systems firm Thales. The IT company, part of the eponymous global corporation, has been using Cisco® UCS since late 2009 as the key element of an entirely virtualized computing platform. Nowadays web servers for critical corporate applications, in some cases for millions of users, are provided in a matter of minutes, with IT mutating to become purely a service that can book on an on-demand basis and be cancelled again equally swiftly. For Thales customers, this capability means there is no capital lockup and no investment risk – and yet they have 24-hour access to server and storage resources with virtually unlimited scalability. Moreover, at Thales, UCS is embedded in a highly secure Cisco network. The entire infrastructure has now been certified in accordance with the Payment Card Industry (PCI) Standard of the international credit card industry.

Web 2.0 has truly brought the Internet up to speed, with online communities growing rapidly, with, in some cases, a hundred thousand more members joining overnight. Every month social games such as FarmVille attract more than 10 million new players. Facebook by now has over 350 million registered users. "The number of users is exploding, and IT providers are being faced with previously unknown challenges in terms of scalability and flexibility," says Arthur de Pauw, operations manager at Thales Austria. Based in Vienna, the Austrian IT division of the international high-tech corporation also looks after several start-ups that earn their money through Web 2.0.

Cisco UCS in use

Extreme fluctuations in the number of users raise entirely new issues when it comes to business calculations, and not just for new companies either. How big should a server platform be to handle Web 2.0 offers? Should it cater for ten thousand or a hundred thousand customers? Or perhaps a million? And what happens to the resources when user enthusiasm wanes and the online community drifts away in search of new destinations? Traditional outsourcing models no longer have the answer to such questions. "The Web 2.0 era demands a new approach to how IT services are provided, used, and charged for" says Arthur de Pauw. "IT has to become purely a service that can be ordered when required and cancelled again without delay if there is a decline in user frequency. We make this type of service model possible, using a resolutely virtualized infrastructure similar to that of a cloud, with the Cisco Unified Computing System UCS as its centrepiece."

THALES

The Fine Art of Virtualisation

Server virtualisation overcomes the division between the logical view and the physical hardware level. Many virtual machines share a physical server and can be moved from one system to another. In this model, isolated resource centers (the worst hindrance to flexibility and the biggest cost factor in conventional data centers) are no longer an issue. The degree of utilization of processors and storage media increases, and, overall, IT then becomes more flexible and can be more easily scaled. That, at least, is the theory. But as so often is the case, little things always cause the problems. If virtual machines are to be moved between systems, for example, all these systems need to have the network configurations of all virtual servers. To do this manually would be more or less impossible. Furthermore, one single configuration error could result in many virtual machines being abruptly cut off from access to the server. If standardized virtualization and management tools for the server, storage, and network are lacking, subsequently administrators often have to battle with sharp falls in performance and waste valuable time in extensive searches to locate the fault.

"And that is precisely what does not happen with Cisco UCS," says de Pauw. The highly scalable complete system comprises blade server, VMware virtualization, plus storage and network connection. UCS standardizes management across all infrastructure sectors. Thales is the first customer in Austria using Cisco UCS with Intel-Xeon 5600-based blade servers. "Once again the company is displaying its willingness to innovate, making its mark as a pioneer for cloud-based provision of IT," says Alexander Timmerman, Cisco account manager.

Thinning Out of the Mass of Cables

NTS Netzwerk Telekom Service AG, a Cisco Gold Partner and qualified specialist for network solutions and Unified Computing, was also involved as the systems integrator. Bernhard Fieglmüller, key account manager at NTS, clearly remembers the UCS installation at Thales in December 2009: "The installation could not have been any smoother. Unpack it, set it up, configure it: we spent most of the time talking about how to achieve the best failover concept to ensure maximum downtime protection for the new UCS."

What struck de Pauw, first, was the cables, or rather by and large the lack of them: "A chassis accommodates eight blade servers, each of which normally requires twelve cables, but with UCS, there are only ten for the entire chassis, so almost 90% less." That not only means cost savings, it also speeds up installation and maintenance work. Also, in many data centers, a dense jungle of cables hampers ventilation of the server, so air conditioning units use accordingly more energy. You immediately notice the cooling effect of having fewer cables, even without elaborate thermometry. "Nowadays it is just not as warm around the server cabs," says Arthur de Pauw.

Non-stop Service Availability

However, what de Pauw sees as crucial progress for his virtual computing platform is the increased flexibility in providing IT services to customers: "The service profiles available with Cisco UCS mean we are now able to set up ready configured machines within minutes. In the past, that would have taken at least a day." The UCS profiles allow storage of predefined configurations, such as network addresses, storage allocations, operating system, and where to boot from. Nowadays, if a virtual server has to be moved on to different hardware, it simply takes its configuration settings along. If there is a scheduled or unscheduled downtime for the server, for maintenance work or firmware upgrades, for example, Thales customers do not notice a thing. Even new server hardware can be installed while the system is still

Background

The Thales Group is a leading international high-tech corporation with core expertise in the fields of defence, traffic innovation, aerospace, IT, and security. Globally, the Group employs approximately 68,000 staff, some 400 of whom are located in Austria.

Challenge

Maximum flexibility and continuous virtualization for its on-demand service platform were the main aims of the Thales IT division in Austria.

Solution

Cisco UCS unifies tightly-packed blade servers and VMware virtualization with storage and network connections in one complete system that can be uniformly administered. The system is cohesively integrated into a Cisco network, whereby Cisco ASA and Cisco IPS protect the entire system from cyber risks.

Benefits

- Web servers can be provided on-demand in a matter of hours

- Extremely high scalability, 90 percent fewer cables

- Maximum flexibility, minimum management input

- No investment or technological risk for Thales customers

- Enhanced turnover: UCS is the platform for new, quality business models

running, without requiring any interruption. de Pauw, says, "With Cisco UCS, we can guarantee availability 24/7. For many of our customers that is essential, because social networks don't take breaks, and web communities are active right round the clock." If user figures climb, Thales customers can respond right away and order more web servers. de Pauw mentions a current case, in which a customer needed to upgrade from two servers to twelve in the space of just a few hours. Once the rush is over, Thales customers can simply cancel the IT facilities that they no longer need.

Smooth Integration and Certified Security

For the provider, this very high level of flexibility represents a clear competitive advantage. It also lays the foundation for innovative business models. Companies can, for example, rent a completely configured interim data center on-demand from Thales as a test environment, for three days or two weeks, depending on the length of the testing period needed. Here again, IT is available purely as a service, with no investment required and no delay through setup and operation of one's own infrastructure. The customer only pays for actual usage, and only for as long as the facility is used.

The Cisco UCS is, of course, not the only element in the Thales IT cloud. The system has, in fact, been cohesively integrated into a highly secure network environment, which is also largely based on Cisco technology. The Cisco Application Control Engine (ACE), for example, helps ensure optimum load distribution across the virtual server platform. UCS is linked up at 10 gigabit per second to a high-availability Cisco Catalyst® network, with various protective and defence mechanisms anchored in the network itself. de Pauw considers the Cisco Adaptive Security Appliance (ASA) and Cisco Intrusion Prevention System (IPS) the most important safety components: "The virtual servers on our Unified Computing platform thus automatically benefit from encrypted VPN transmission, hardware-based firewall protection, and smart IPS functions. Security is extremely important to us, because many of our customers work with micro-payments and carry out other financial transactions online. Without guaranteed security, their business basis would literally fold." And Thales customers do not have to rely on verbal statements alone either. Certificates prove that their provider's service infrastructure meets the tough PCI criteria of the international credit card industry.

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