

Data Centre Auditing and the AMS-IX data centre standard

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Capitoline LLP has taken data centre auditing to further heights with its unique business continuity analysis approach. Data Centre auditing can take many approaches to the subject such as

- Adherence to TIA 942 standard including the TIA's version of the Tier rating system
- Adherence to the BICSI 002 standard
- Rating according to the UpTime Institute's tier rating system
- Green rating and CO₂ footprint analysis that could include methods from
 - Energy Star
 - EU Code of Conduct
 - The Green Data Centre Energy Efficiency framework
 - BREEAM
 - LEED
 - Green Grid Carbon Usage effectiveness

Capitoline can supply an audit service to demonstrate approval to any of the above standards and we are uniquely qualified as CIBSE Low Carbon Consultants and UpTime Institute Accredited Tier designers. With our status as Chartered Engineers within the European Union, which is recognised as Professional Engineer status in the United States, then it is recognised by all countries that are signatories of the Washington Accord that such companies can design and verify designs to publically available standards such as TIA 942.

Some standards, such as ISO 27000 look at business security and business continuity. These standards in themselves supply little detail about how items such as the security of the power supply or even site physical security should be provided.

Businesses, including data centres, that want to host any credit card transaction capability need to pass the PCI, Payment Card Industry Standard, which has its own physical security requirements.

Passing a Capitoline business continuity data centre audit should ensure that the site will meet all the physical requirements of a future ISO 27000 and PCI audit.

Capitoline has used all of its data centre expertise in developing a data centre business continuity audit for the Amsterdam Internet Exchange, or AMS-IX as it is known. AMS-IX is the largest internet exchange in Europe. Data centres wishing to connect into the AMS-IX network must first prove that their level of availability is going to be adequate and at the same level as other connecting entities. To prove this they must undergo a business continuity audit against the Standard written and developed by Capitoline in association with AMS-IX.

The Capitoline/AMS-IX audit is a unique combination of good design and good operational and management techniques.

The Capitoline/AMS-IX audit standard covers

- Security of power supply

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- Security, redundancy and effectiveness of the air conditioning and ventilation system
- Physical security and location of the site
- Fire detection and suppression strategies
- Security of communications cabling
- Risk assessment and business continuity planning
- Operational management strategies
- Documentation and procedures

The Capitoline/AMS-IX audit standard takes in all the relevant requirements of TIA 942, ISO 27000 and many other relevant but very specific standards and builds up into the most useful data centre business continuity standard and audit available today.

A typical audit takes one full day on site where all the critical processes will be inspected and verified and the operating environment typically checked with a thermal imaging camera.

Users of the Capitoline/AMSIX audit include

Interxion



eunetworks

EU Networks



Vancis
Advanced ICT Services



Vancis

NIKHEF

Telecity



TelecityGroup
where content meets connectivity



Global Switch

Equinix



AMSI-IX Press Release



To achieve a decent standard for data centers AMS-IX and the British company **Capitoline** have pioneered an approach called asymmetric auditing. Here the key areas of relevant standards are identified and defined to achieve the desired results. An audit should ask specific questions and provide a benchmark for the answers to test. Concerns should lead to an action list for any deficiencies and requires a re-audit after those concerns are addressed.

The result of collaboration with **Capitoline** is a standard that ensures continuity by looking at the functional requirements. "The Standard does not for example require that the data center must be equipped with hot and cold aisles. "It is now common, but in a few years may have become obsolete," explains AMS-IX CEO Job Witteman. "But what we look for is the maximum input-output temperatures and we follow the AMS-IX ASHRAE standards."

Compliance with the AMS-IX standard is demonstrated by an audit that is executed by **Capitoline**. During this audit, location-related issues are rated such as build quality and flood protection. The audit also includes an inspection of security and access control, fire action, electricity supply, cooling and ventilation, cabling and management and monitoring. Additional operational procedures and protocols are reviewed.

Telecity Group Press release



TelecityGroup awarded AMS-IX accreditation

TelecityGroup Netherlands has been awarded the 'AMS-IX certified data centre' accreditation from the Amsterdam Internet Exchange (AMS-IX). The AMS-IX certificate, which complements TelecityGroup's existing ISO 27001 and ISO 9001 accreditations for security and quality management, demonstrates the premium standard of the Group's data centre facilities.

AMS-IX established its accreditation in 2009 to give organisations an objective means of measuring the quality of data centres that offer AMS-IX connection points. As existing international standards do not meet specific local requirements, the AMS-IX certification was developed to meet the specific needs of the Dutch market. Independent UK consulting company **Capitoline LLP** audits the data centres on AMS-IX's behalf.

Job Witteman, CEO at AMS-IX, says: *"To develop the accreditation we reviewed existing standards to extract the most relevant elements, before adding criteria that are crucial to our local market. We have ensured the auditing process is extremely thorough; existing accreditations are not taken into consideration, and every point is checked by our independent auditors. Of all colocation providers where our access switches are located, the TelecityGroup location in Amsterdam South East was the largest in 2009. This audit has proved that in addition to this scale, they also take an extremely professional approach to quality management."*

Alexandra Schless, Managing Director TelecityGroup Netherlands: *"AMS-IX and TelecityGroup have had a strong working relationship for many years, and after an expansion last February we again doubled the number of AMS-IX connection points in our data centres. This AMS-IX quality mark is a valuable confirmation of the premium standard of our facilities, and a new milestone in our successful relationship."*

25 November 2010

TelecityGroup Amstel Business Park awarded the AMS-IX accreditation

TelecityGroup, Europe's industry-leading provider of premium network independent data centres, has been awarded the 'AMS-IX certified' accreditation by the Amsterdam Internet Exchange for its Amstel Business Park data centre.

The certification of Amstel Business Park follows the successful installation of AMS-IX's first ever extension location in the facility in September 2010. As a result of its application of the latest Dense Wavelength Division Multiplexing (DWDM) technology, the Amstel Business Park facility has already gained the same functionality as seven separate locations with AMS-IX Points of Presence. TelecityGroup's Amsterdam Zuid-Oost data centre was certified by AMS-IX in April 2010. AMS-IX developed its own accreditation in order to provide an objective evaluation of the various data centres in the Netherlands that offer direct connections to AMS-IX. Due to specific factors to the data centre industry in the Netherlands, such as building density and a facility's location compared to sea level, international standards such as the American Tier classification are not always appropriate.

Job Witteman, CEO of AMS-IX: *"On 14 September 2010, just one day after the announcement of our extension location at Amstel Business Park, we became the world's first internet exchange to break the data transport record of one Terabit per second. We would never have reached this milestone without working with TelecityGroup, which has invested heavily in its facilities to ensure the highest levels of security, reliability and quality.. TelecityGroup's Amstel Business Park is one of the most advanced data centres in Amsterdam, and has succeeded in acquiring our AMS-IX certified data centre certificate with flying colours."*

Alexandra Schless, General Manager of TelecityGroup Netherlands: *"We have worked extremely closely with AMS-IX during 2010. We started the year by doubling the connection capacity of Telecity2 in Amsterdam Zuid-Oost and shortly afterwards we received the AMS-IX certificate for that facility. Following the installation of the AMS-IX extension in our Amstel Business Park data centre in September, the AMS-IX accreditation for our newest location is the final reward for all our hard work this year. When breaking through the Terabit barrier, AMS-IX expressed its wish to beat the next data transport record - one Petabit per second. We heartily support this ambitious goal and we look forward to working together further in the coming years to help AMS-IX achieve this."*

Interxion Press release

02-11-2010

Interxion Awarded New AMS-IX Data Centre Certificate

AMSTERDAM, 11 February 2010 - Interxion, a leading European operator of carrier-neutral data centres, is the first data centre colocation provider to be awarded the new Amsterdam Internet Exchange (AMS-IX) data centre certificate. The certificate was awarded to Interxion's recently completed 4,500 m² AMS 5 data centre in Amsterdam, following an audit of the facility's standards for technical implementation, operational resilience and business continuity management.

The new AMS-IX certificate was developed in 2009 to resolve issues encountered by AMS-IX and its members in the past and to eliminate any possible ambiguity about acceptable colocation standards in the future. It involved a full independent audit by consultants, **Capitoline LLP**. The audit evaluated location-related aspects such as flood protection and building quality – and scrutinised security and access control, fire precautions, power supplies, cooling and ventilation, cabling and management systems and monitoring. Also assessed were operating procedures and protocols that ensure operational continuity and timely, reliable customer communication in the event of outage.

“Our new certificate is designed to clarify the minimum standard of colocation services for AMS-IX and to simplify the decision-making process for exchange members looking for a maximum-availability data center environment.” said Job Witteman, AMS-IX CEO. “Until now there has been no standard tailored 100% to professional, high-end Internet exchanges and their users, and with the successful launch and accreditation of leading operators like Interxion, we hope the new standard will be adopted more widely by the industry.”

“We are delighted to be first in line to receive the new AMS-IX certificate,” said Michel van den Assem, Managing Director, Interxion Netherlands. “Any certificate that clearly demonstrates the value to customers of rigorous security, service and business continuity standards improves the overall quality of the industry, and in this case the endorsement comes from one of the largest Internet exchanges in the world. We provide our customers with direct access to 18 leading Internet exchanges in 11 countries, and we hope that where AMS-IX has shown the way, other Internet exchanges that connect to our footprint will follow.”

The new certification covers many of the areas already addressed as part of Interxion's pan-European accreditation for ISO 27001. The ISO 27001 audit and certification process focuses on every aspect of the business, including physical infrastructure, site security and access management, personnel capabilities, communications and operations, legal compliance criteria, and back-up and disaster recovery.

VANCIS Press release



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Good performance in AMS-IX audit

At the end of 2008, AMS-IX decided to examine all datacenters with AMS-IX connectivity on the basis of objective standards. Recently, the datacenter of SARA/Vancis has been audited.

AMS-IX and SARA/Vancis have appointed the English company **Capitoline LLP** as independent auditor. The audit covers all aspects of the operations, such as security/monitoring of the infrastructure, redundant power and cooling, emergency procedures and reliability of the data center as a whole.

Based on the results of the audit, it can be concluded that our datacenter complies in nearly all respects with the requirements of AMS-IX. The conclusion in the management summary of the audit of Capitoline reads: "Apart from a few minor failures the data centre facility at Vancis substantially meets the requirements of the AMS-IX Specification."

The audit has also revealed some points requiring improvement; SARA/Vancis will implement these points within six months.

Capitoline/AMS-IX audited sites December 2010

		Amsterdam Zuid-Oost
		Amsterdam Amstel Business Park <i>(extension to Zuid-Oost)</i>
		Amsterdam Zuid-Oost
		Schiphol-Rijk

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 <p>eunetworks PRIVATE FIBER SOLUTIONS</p>	Pending	Amsterdam Amstel Business Park
 <p>Vancis a <i>SARA</i> company</p>	Pending	Amsterdam Science Park
 <p>NIKHEF</p>		Amsterdam Science Park