



54th CIML Meeting - Working Document

**Additional Meeting Document**

**54-CIML-AMD-4.1-a**

2019-09-23

**Agenda item 4.1: Report by the BIML Director**

**Update on OIML Website/BIML IT Systems**



## **Update on OIML Website/BIML IT Systems**

### **1 Changes to the website**

A number of **additional features** have been added over the past year:

#### **CEEMS** Section

- Introduction now available in French language
- The list of Experts has been published
- All the training material from the various training courses has been made available
- An introduction has been added to the e-Learning section

#### **OIML-CS** Section

- Introduction now available in French language
- Regular updates of OIML Issuing Authorities, Utilizers & Associates, Summary tables, etc.
- Code modifications to take into account OIML-CS Scheme A and B Certificates, modification of dynamic pages to take into account OIML-CS Certificate invoicing and revision of the back-end architecture to accommodate the new System

#### **General**

- More publications have been made available under the “Other language translations”
- The contact form has been improved, including the addition of a captcha and a new template
- Behind the scenes, improvements continue to increase the website’s efficiency, make it more user-friendly and facilitate administration tasks
- The operating system of the internal development/testing machine had been upgraded from FreeBSD 9.2 to 12.0, and this will now be replicated to the live site after a successful test period. As a result, work is ongoing to optimise the database tables and the coding of the dynamic website pages, all of which are developed by the BIML in-house to ensure full customisation possibilities
- Preparation for the change of the DCMAS website to INetQI is underway
- Discussion is also underway concerning an overhaul of the “Liaisons” section

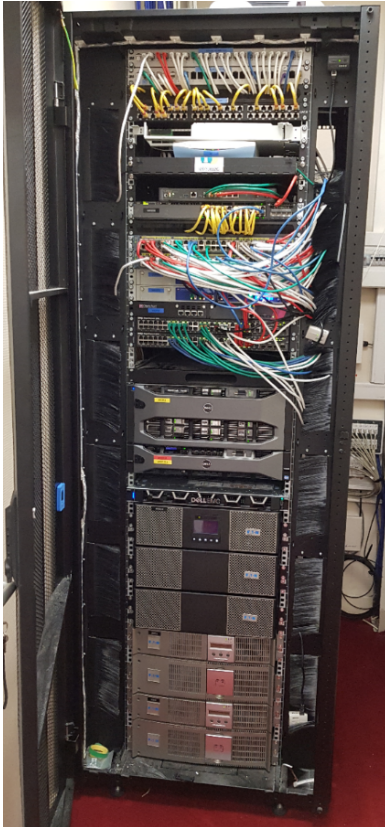


## Additional Meeting Document

### 54-CIML-AMD-4.1-a

2019-09-23

#### 2 Servers



The BIML now hosts the majority the Organisation's servers **in-house** (oiml.org, lms.oiml.org, worldmetrologyday.org, dcmas.net, viml.oiml.info, and a number of internal domains including the training website clone). The BIML also hosts all our file/web servers in-house.

Hosting our services in-house represents a significant **cost saving** compared to using an external service provider, and in the event of a problem the BIML can **react immediately**.

Upgrades and improvements are made directly without having to request a service ticket which can be a lengthy and costly operation with an outside service provider.

The email and DNS servers are hosted externally in order to ensure that our communications always remain **functional**, even if we have an internet outage. We now use IMAP email throughout the BIML to facilitate cross-device access.

*The BIML primary IT rack is housed in a dedicated air-conditioned room*

#### 3 Hardware

Over the past few months the BIML has upgraded the oldest hardware server to a new Dell R640, which has now become the primary server. The previous equipment, a Dell R 710, had provided **seven years** of service. However, now is the time to replace it because this material has been depreciated in the accounts over five years, representing a **cost saving of two years**, and risks becoming unreliable.



*New Dell R640 primary hardware server*



The new material, the R640, is faster and more modern, and users of the OIML website should have noticed a significant **improvement in the response time** of the OIML website following this change at the end of August 2019.

The server operating system, VMWare ESXi, has also been upgraded to ensure full compatibility, notably with the backup system implemented over the past years and the new material will also be **depreciated over five years**.



*oiml.org is now significantly faster*

Over the coming year, the secondary server will also be replaced to provide the same advantages of **speed and capacity**. Both the primary and secondary hardware servers execute the virtualisation system which hosts all the virtual machines/servers. Using two servers is highly recommended to **avoid downtime** in the event of equipment failure.

We will also be replacing the SAN (Storage Area Network) disk array which will be comprised of SSD (solid state disk) drives rather than hard drives, producing less heat and wear and tear. The total capacity will also be increased.



*Dell Equallogic PS 6100 SAN (Storage Area Network) disk array*

#### **4 Backup**

**Hardware:** All the information on the OIML website, the database, file servers and local PCs are now backed up onto a physically separate server both incrementally and periodically.

**Software:** We are working on an automated backup system integrated into the website application (Zope) which can recover the website granularly or fully in the event of a partial or total data loss. Effectively Publications, Certificates and all the TC/SC/PG CDs, Drafts and Workspace data are stored in a special database file managed by the application itself. Currently the whole machine (virtual) is backed up but this did not allow individual file restoration with the primary backup system.



**Additional Meeting Document**

**54-CIML-AMD-4.1-a**

2019-09-23

**5 Internet link**

We have a 100 Mbit/s internet **fibre primary connection** and an independent backup SDSL backup link which takes over automatically if the fibre connection goes down.

*The BIML Web Team will be pleased to give you more information and assist you in using the website!*

Jalil <b>ADNANI</b> <i>Database Systems Management</i>	Jean-Christophe <b>ESMIOL</b> <i>IT Systems Management</i>	Chris <b>PULHAM</b> <i>Editor/ Webmaster</i>
--	--	--