

XXX. DAYS OF RADIATION PROTECTION



CONFERENCE PROCEEDINGS

**LIPTOVSKÝ JÁN, LOW TATRAS,
SLOVAKIA**

10.11. - 14.11.2008

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DATABASE INIS AND UP-GRADE OF THE INIS SLOVAK NATIONAL CENTRE

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INTRODUCTION

The INIS (*International Nuclear Information System*) is the information system on peaceful use of nuclear energy [1]. The INIS database is managed by the International Atomic Energy Agency (IAEA) in Vienna. The INIS database covers wide area of science and technology in different scope of interests of the IAEA in nuclear sciences, technologies, non-nuclear techniques of energy production as well as environmental and economical aspects, in life sciences, the environment and the Earth. The INIS is operated in collaboration with, at present time, 119 Member States and 23 International Organizations [2].

Present state of the INIS

The INIS, at the present time, contains 3 databases:

1. Database **INIS on CD**: initially it was performed from 1970 on magnetic tapes and in printed version as the *Atomindex*, from 1993 it is provided on CD (available from 1970), it contains bibliographic data about 3 million documents.
2. Database **INIS NCL on CD**: initially it was performed from 1970 on microfiches, since 1997 it is provided only on CD. It is unique collection of more than 700,000 full-text documents in 63 languages, including documents, which are nowhere else available. The IAEA realises project of digitalisation of more than 600,000 full-text documents, which are on microfiches from 1970–1996 years at present time. Project will be completed within the next three years. Altogether 67,107 reports with total of 3,047,960 pages were digitised [3].
3. Database **INIS Online Database**: it is available on the Internet since 1998. The Manual for users was published [4]. Totally 356 universities in 64 member states obtained free access to INIS Online Database till end of 2007 [5].

INIS Slovak National Centre

The INIS Slovak National Centre (INIS SNC) was originated in 1993 after formation of the Slovak Republic and after formation of the Nuclear Regulatory Authority of the Slovak Republic (UJD SR).

Shortly after the formation of the UJD SR teachers of the Department of Nuclear Chemistry, Faculty of Nuclear Sciences, Comenius University (DNC FNS CU) in co-operation with the UJD SR organised the *First INIS Seminar* in November 1995.

DNC FNS CU has purchased the CD-ROM reader and HD to the terminal, what enabled to operate INIS, during that time UJD SR has offered one package of database *INIS on CD*. Short after, the INIS database was included into *Chemical informatics* seminars [6]. During 1999–2000 technical co-operation project (SLR/1999/001/RQ) among IAEA, UJD SR and FNS CU was started. The aim was completion of the *Field Office of INIS SNC (FO INIS SNC)*.

During 1999 in the frame of the project (SLR/1999/001/RQ) the IAEA delivered 4 PC, tower AXIS for up-to 16 CD drivers, scanner HP ScanJet ADF and printer HP LaserJet 1100 [7]. On February 28, 2000 operation of the *FO INIS SNC* officially started, after the Agreement on co-operation between the UJD SR and FNS CU was signed [8].

From 1997 the INIS Centre provides the database *INIS NCL* exclusively on CD. After completion of the *FO INIS SNC* in the Chemical study hall of the Central library of the FNS

CU, the *FO INIS SNC* obtains regularly one set of this database (all database INIS NCL on CD from 1997 is available). Yearly it consist the set of 30 ÷ 50 CDs, total number of CDs with database INIS NCL exceeded 400 pieces (totally they contain about 300 GB of information) till 2008.

In 2007 the DNC FNS CU obtained free access into the *INIS Online Database* for students, post-graduate students, scientific workers and teachers.

Up-Grade of HW & SW of the INIS SNC

In the summer 2008 in co-operation with the UJD SR, IAEA, and FNS CU (and teacher of the DNCH) the HW & SW of the *INIS SNC* were replaced. New HW and SW were bought and installed in total price of \$24,700 (without VAT) in joint project SLR0006-86576S.

New HW and SW consist of:

- ❖ **1 Server** (HP ML310T05 3210 HPSATA/SA RPS, Quad-Core Intel Xenon processor 2,13 GHz, 8 MB L2 Cache, 1066 MHz FSB, 2x1 GB, SATA RAID 0,1 HDD 2x750 GB SATA2);
- ❖ **4 PC** (HP KK408ES#AKR dx2250 MT: (2.6G) 2GHz, 250 GB HDD, DVDRW CR);
- ❖ **5 Monitors** (LG-L1919S-SF: 19", 1280-1024);
- ❖ **1 Scanner** (HP ScanJet 5590C Digital Flatbed Scanner series (L1910A));
- ❖ **1 Colour laser printer** (HP LaserJet 5550DN A3 Q3715);
- ❖ **5 x Windows XP Prof SK OEM 32-bit; 5 x MS Office 2007 Basic OEM SK.**

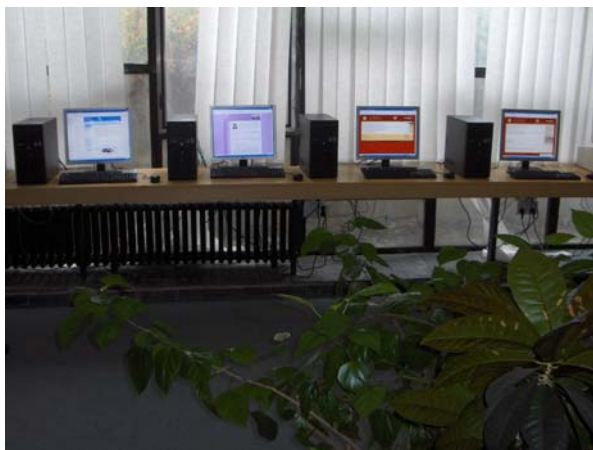


Fig 1. Four PC of the FO INIS NCSR in the Chemical study hall of the Central library of the FNS CU.



Fig. 2. HW of the FO INIS SNC assigned for administrator and workers of the INIS NCSR.

In term of new conception INIS NCSR it was determining to provide powerful server with big HD, where it could be able to save whole database INIS on CD (in present time 13 CDs) and to copy all CDs with NCL literature (in present time around 430 CDs). Server has technology RAID - mirror image of the first HD is automatically created. In the case of its fault the system is switched automatically to using of the second HD. Wiring diagram of server with 4 PCs, with laser printer, scanner and connection to Internet is on the figure 3

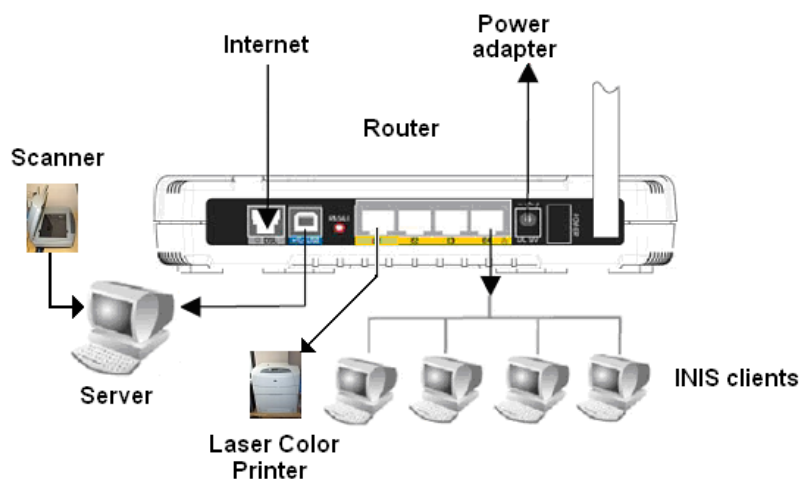


Fig. 3. Wiring diagram of HW in HW in INIS NCSR.

All CDs with database *INIS on CD* are copied (about 3 million records) on HD of the server. For reading of this database the SW WinSPIRS v.5.0.2 in net version is has been used, what enables contemporary processing of information of all database *INIS on CD*. On the same HD of server all CD with database *INIS NCL on CD* (~430 CD) are also copied. For using of this database the SW INISIR v.2.0.0.0 (Jouve SI[®], 1997) is used. To be possible to read the copied CDs as they are on the real CD-ROM using the SW DAEMON v.3.4.7. This program forms the virtual CD drive. Totally, copies of 4 virtual CDs can be created. Searching of NCL literature is incomparably faster compared to toilsome hand exchange of CDs with database *INIS NCL on CD*.

Other activities of the INIS SNC

Component part of the INIS SNC is preparation of inputs for database INIS in the SR and publicity of INIS in the Slovakia. Also the copies of NCL are sent to the INIS Centre. Omega Info has prepared totally more than 5,000 inputs for database INIS and it was delivered more than 23,000 copies of NCL. During 11 years J. Kuruc has proposed new descriptors (they are common to databases INIS and ETDE) to include into database INIS from which were approved: *UJD*; *VUJE*; *Cyclotron Center of the Slovak Republic*; *Mochovce Radioactive Waste Repository*; *Vah River*; *Dudvah River*; *Hron River*; *Manivier Canal*; *Bohunice Radioactive Waste Processing Center*; *JAVYS*. One of the main activities of INIS NCSR are regular *INIS Seminars*, which are a part of the lesson *Chemical Informatics* of the study program of bachelor study at the FNS CU in Bratislava, in the field of Chemistry study for nuclear chemistry students [9].

CONCLUSION

Thanks to financial support by the UJD SR and successfully realisation of common project of UJD SR, IAEA and FNS CU No. SLR0006-86576S in FO INIS SNC new HW & SW was bought and installed with modern design of securing of SW for both INIS databases.

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