

# Standardization of mathematical documents

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Euromath Bulletin, Vol. 1, No. 1, August 1992 (5 – 6)

Standardization is a key issue in putting new technology into common use. Unfortunately chosen standards, like the different widths of train tracks in European countries, cause problems and additional expenditure. In the case of the train tracks, this problem will stay with us forever.

Information technology has experienced immense growth during the last years. That has also lead to a dramatic change in almost every mathematicians working habits. More generally this concerns everybody whos work involves a lot of writing. Text processing is here to stay and desperately needs standardization. The Euromath project participates in the development of standards for mathematical documents.

Standards can be local, national or global. Everybody, who spends a fair amount of his or her time regularly at a computer, has developed certain ‘standard’ ways of dealing with information. Often these ‘standard’ ways are quite local and apply only to this particular computer. And the only person who can take full benefit of these standards is the person who also designed them.

Next type of standards are, for instance, campus wide standards for dealing with certain type of information. Or standards which apply to all computers of a certain make within one country. Best example of the latter standards are all the different ways of dealing with national characters. It is still difficult to send the scandinavian letters ‘ä’, ‘ö’ and ‘å’ from one computer to another one of a different make. It is, of course possible, but so tedious that, in usual email communications, these letters are replaced by certain ‘normal’ English letters or letter combinations.

The Euromath system aims much higher: we want to be able to send, by email, mathematical documents with all the special characters, formulas, diagrams and figures, to other mathematicians in a ‘WOSIWOG’ fashion (What One Sends Is What the Other Gets, term invented by Peter Vamos). This will not be possible unless we develop a standard for representing mathematical documents. This is one of the tasks of the Euromath project. In order to get this standard accepted, it is not enough to define it in detail. We also need an editor which can be used to create these documents. The Euromath system will be based on such an editor.

The Euromath Bulletin was established by the European Mathematical Trust. The Bulletin will inform about the developments of the Euromath project but is not limited to that. The Bulletin will publish high quality papers concerning computers and the use of advanced information technology in mathematics. This includes, especially, all kinds of mathematical software. Mathematicians are encouraged to contribute by sending papers to the Bulletin. Contributions will be subject to normal refereeing process.

We are going to enter a transition phase: most West European mathematics departments are soon fully equipped with PC's and low end Macintosh computers. Next phase will be migration to UNIX workstations. At some mathematics departments this has already happened. In the high majority of the cases this is going to take place during the next three or four years.

Administering UNIX workstations at departmental level is much more demanding than administering PC's. We need a lot of information here. The Euromath Bulletin will do its best to help mathematicians in this rather complex matter. It is our goal that in the future the 'trains' of mathematical information will be able to flow freely from one country to another and from one computer system to another regardless of the brand of the system. Everybody will lose if we do not achieve our goal: building train cars that can run on all the different tracks in Europe is expensive. Good standardization at the starting point would have saved us a lot. Let us strive not to make the same mistake as the early developers of railroads did. Everybody can participate in this cause: the Euromath Bulletin is a vehicle for that.