Setting Standards for Future Generation Networks – Lessons Learned from a Past Pitfall

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Ages ago, in the late seventies, the mushrooming of proprietary e-mail systems led to an ever increasing level of frustration on the users' side. In response, IFIP started an initiative towards a unifying standard for such systems. In the early eighties, these activities were channelled into the formal standards bodies (both ISO and CCITT became active in the field, but that's a different story). Eventually, the first version of the X.400 specifications were published in 1984. Later, it was integrated into the OSI protocol stack, as part of the Application Layer.

Yet, despite a clear need for such a system, X.400 was never really accepted by the market. In some interested quarters, common wisdom has it that the Internet basically marginalised all other networking standards, and that SMTP on top of TCP/IP became (most of) the world's messaging system of choice. Others argue that OSI's installed-base hostility was the true reason for its failure, and that X.400 failed along with OSI.

I will argue that both points are virtually irrelevant. In the mid-eighties, the Internet had not yet developed into a force to be reckoned with in data networking. And X.400 was pretty well adapted to the network infrastructure that existed back then (e.g., X.25 in Europe).

A major part of the talk, however, will discuss the factors I believe led to X.400's failure. These include poor timing, inadequate first implementations, increasingly invalid assumptions upon which the standard was based, and an ill-advised paradigm shift that occurred along the way.

These factors were not least the outcome of serious mis-judgements that are by no means unique to this particular case. In fact, I would argue that something similar may easily happen again. Thus, the talk will develop some recommendations on how the identified pitfalls can be avoided in future standardisation activities.