Emerging Technologies and Innovation in the Field of IT : Challenges for Standardization

National Seminar on Information Technology Standardization

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Why Standardize IT ?

- Standardization stifles innovation vs Standardization facilitates innovation
- Standardization is a tool for facilitating non-tariff trade barrier vs Standardization facilitates unraveling of non-tariff trade barrier
- Standardization reduces cost of IT
- Therefore standardization allows greater reach of IT
- Therefore standardization helps in improved socio-economic status of the country
- Standardization provides hope..

Hypothetical Case 1: Standardization of Verbal Communication

- Government of India decides that since most legal documents are in English so English will be made the mandatory standard for communication
  - Only 7% on Indians can speak English
- Government of India decides that all documents must follow Wren and Martin Grammar

Impact ?

- Bureau of Indian Standards establishes a large building to house its team of experts to validate the compliance to standard of all communication being made
- Queen of England imposes a royalty of 1 pence per sentence communicated, that is Wren and Martin Compliant
- Riots break out in Technigram

So What went Wrong in this Standardization effort ?

- The standard chosen was not Royalty free in perpetuity
- The standard was chosen keeping in mind a privileged few who are currently using the communication tool
- The standard was designed to support a specific IP
- The standard implied compromising National Sovereignty

Implication of Legislations on Standards

- Section 7 of IT Act 200
  - Where any law provides that documents, records or information shall be retained **for any specific period,** then, that requirement shall be deemed to have been satisfied if such documents, records or information are retained in the electronic form
- RTI

Hypothetical Case 2: Creation of a Synthetic Language as a New Standard

- Standardenesia has many languages
  - Hence Standardenesia creates new grammar for a new synthetic language to be used as a standard
- However Government of Standardenesia realizes that the new grammar is 5000 pages long and no one can verify if anyone can speak the new language in a standard-compliant manner

So What went Wrong in this Standardization effort ?

- A standard was adopted that was too complex to be implemented or even ratified
  - ISO/OSI stack
  - OOXML
- Most standards therefore have a reference implementation, which is typically open source

Hypothetical Case 3: MegaTracks Corporation

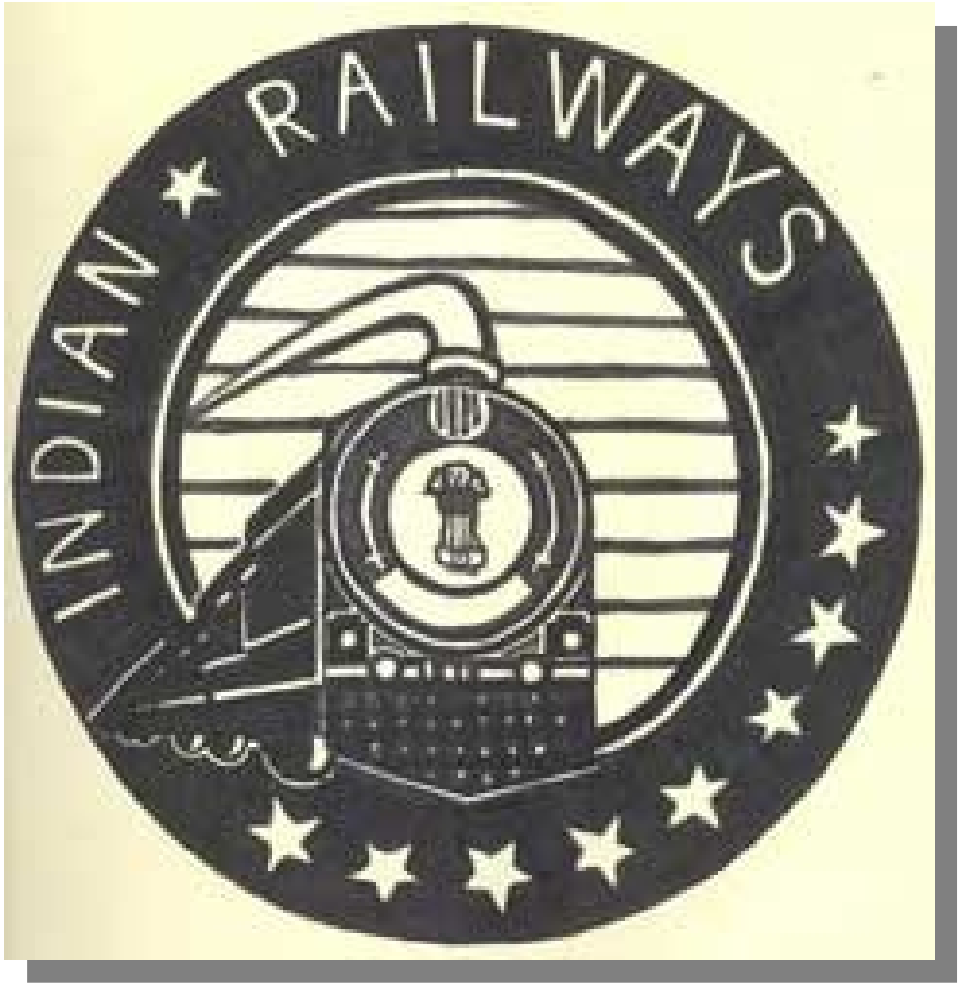
- All railways line Standards are determined by MegaTracks Corporation and its partners
- Indian Railways, engine makers, commuters and signal manufacturers are not involved
- Every year, the consortium of Track standards led by MegaTracks Changes the railway guage

Impact

- All engine manufacturers have to support the new standard else their engines will become non-standard
- Indian Railways would have to rip up the entire rail network and relay the lines
  - Else get branded as technologically backward
- Commuters face immense problems during transition and their ticket prices goes up

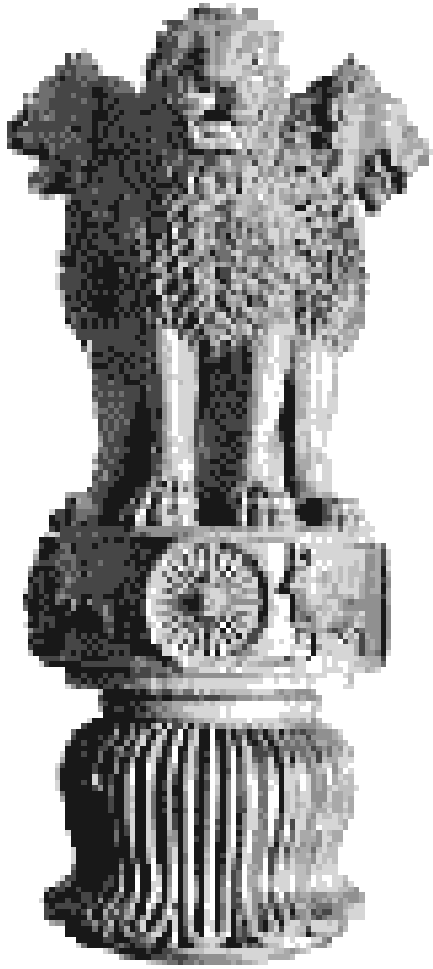
What went wrong ?

- Standards must be developed and managed in an open process
- Should have participation from ALL stakeholders, including users
- Subject to extensive public review



Therefore What Should be Considered during Standardization of IT

- The standard and all standards on which the said standard are dependent, need to be **ROYALTY FREE IN PERPETUITY**
- Standards adopted should keep in mind requirements of **FUTURE USERS** as well as current users



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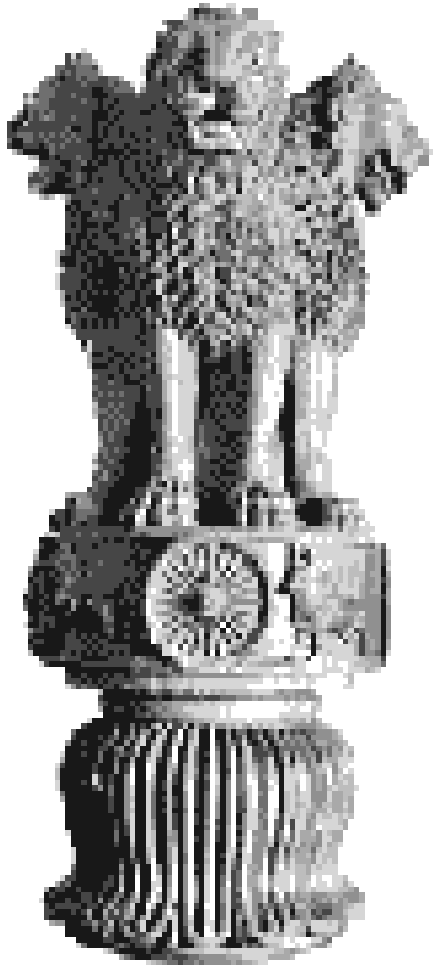
- Standards **SHOULD NOT BE DESIGNED TO SUPPORT A PARTICULAR IP**
- Standards should ensure **TECHNOLOGICAL SOVEREIGNTY**
- Standards should **SUPPORT CURRENT NATIONAL LEGISLATIONS**



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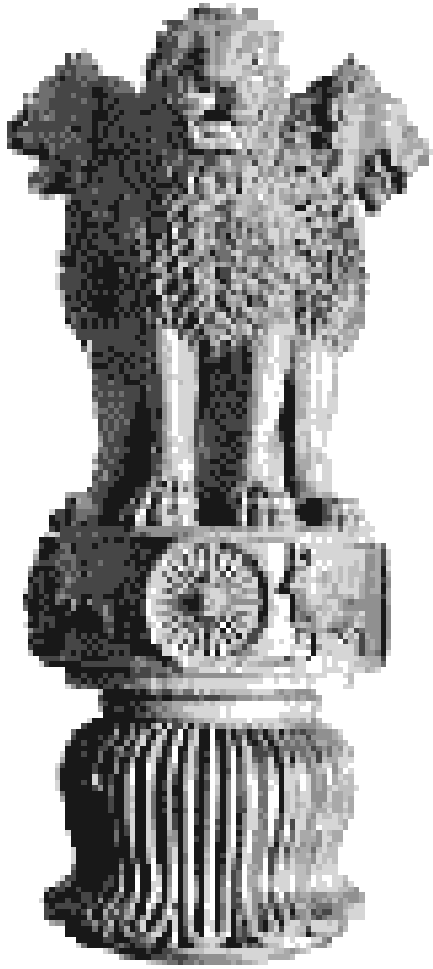
- Standards should **EASY TO IMPLEMENT**
- Standards should be **EASY TO VERIFY**
- Developed and managed in **AN OPEN PROCESS**
- Subject to **EXTENSIVE PUBLIC REVIEW**
- They must **NOT REQUIRE MONITORING OR AUDITING OF USAGE**



So what do we achieve ?

Thank you

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