

SMIng

PROBLEMS WITH SMIV1 / v2

- SMIV2 RELIED ON 1988 VERSION OF ASN.1
- TOOLS FOR SMIV2 RELATIVELY COMPLEX
- CERTAIN DATA TYPES WERE MISSING IN SMIV2
64 bit integers, ...
- LIMITED FACILITIES TO REUSE DEFINITIONS
- SMIV2 DID NOT ALLOW FOR EXTENSIONS
- NEW, POSSIBLY INCOMPATIBLE VARIANTS APPEARED
SPPI, ...

SMIng

TO RESOLVE THESE PROBLEMS

THE IRTF NMRG DEFINED:

SMI next generation (ng)

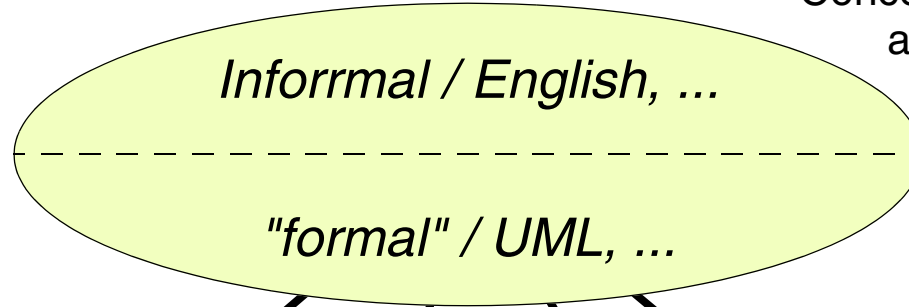
THE CHALLENGE:

CREATE A COMMON **DATA DEFINITION LANGUAGE**,
INDEPENDENT OF SPECIFIC PROTOCOLS

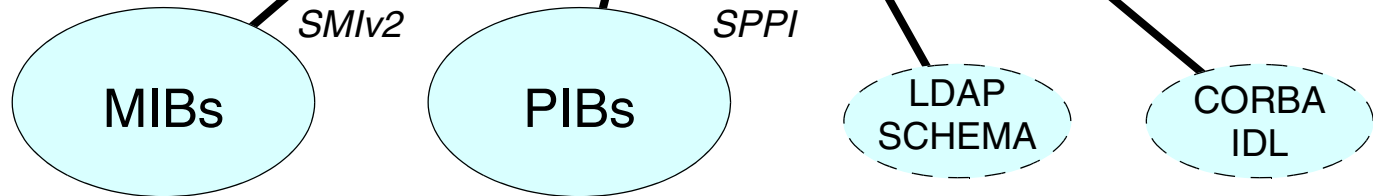
DATA VERSUS INFORMATION MODEL

Conceptual model /
abstract model

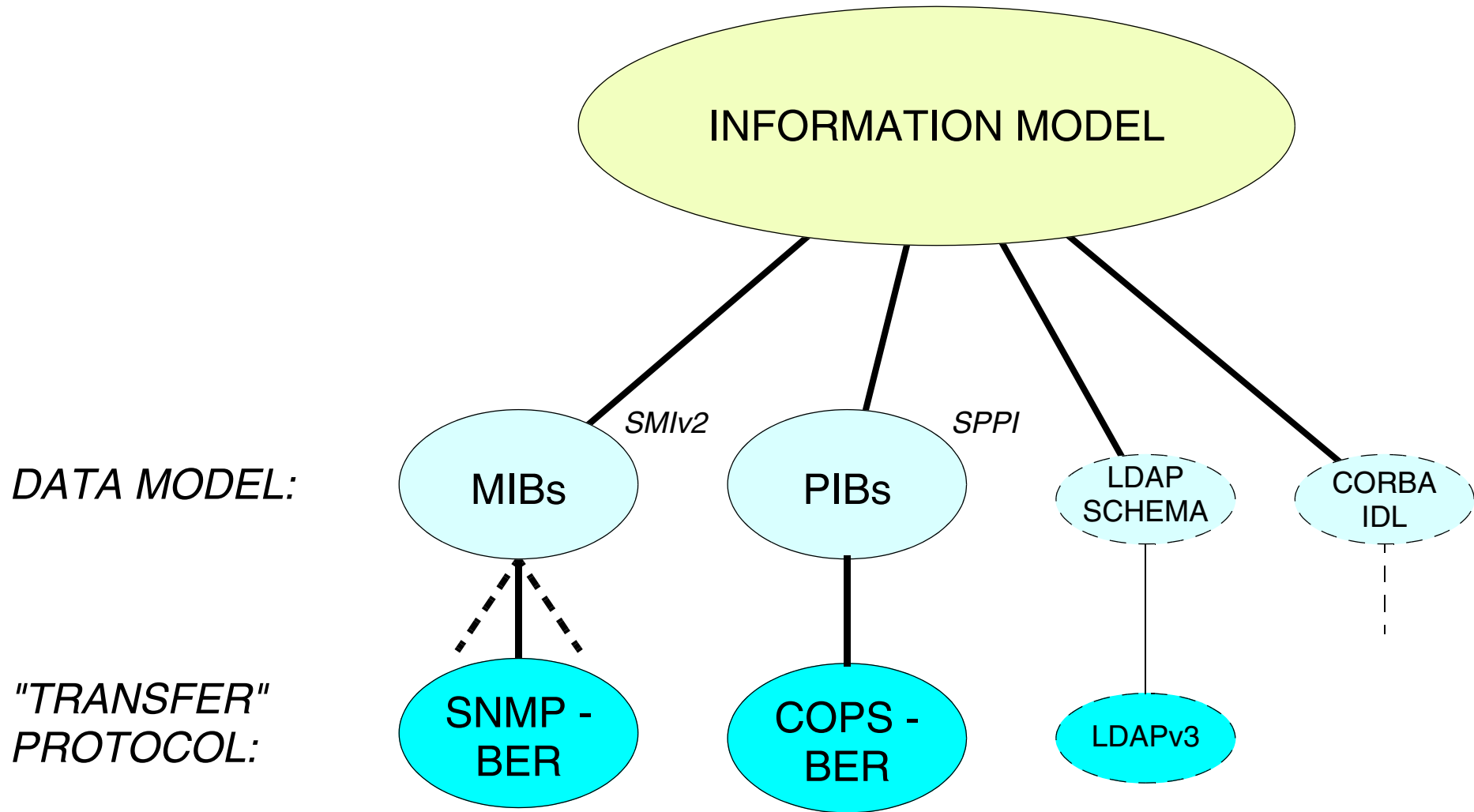
INFORMATION MODEL:



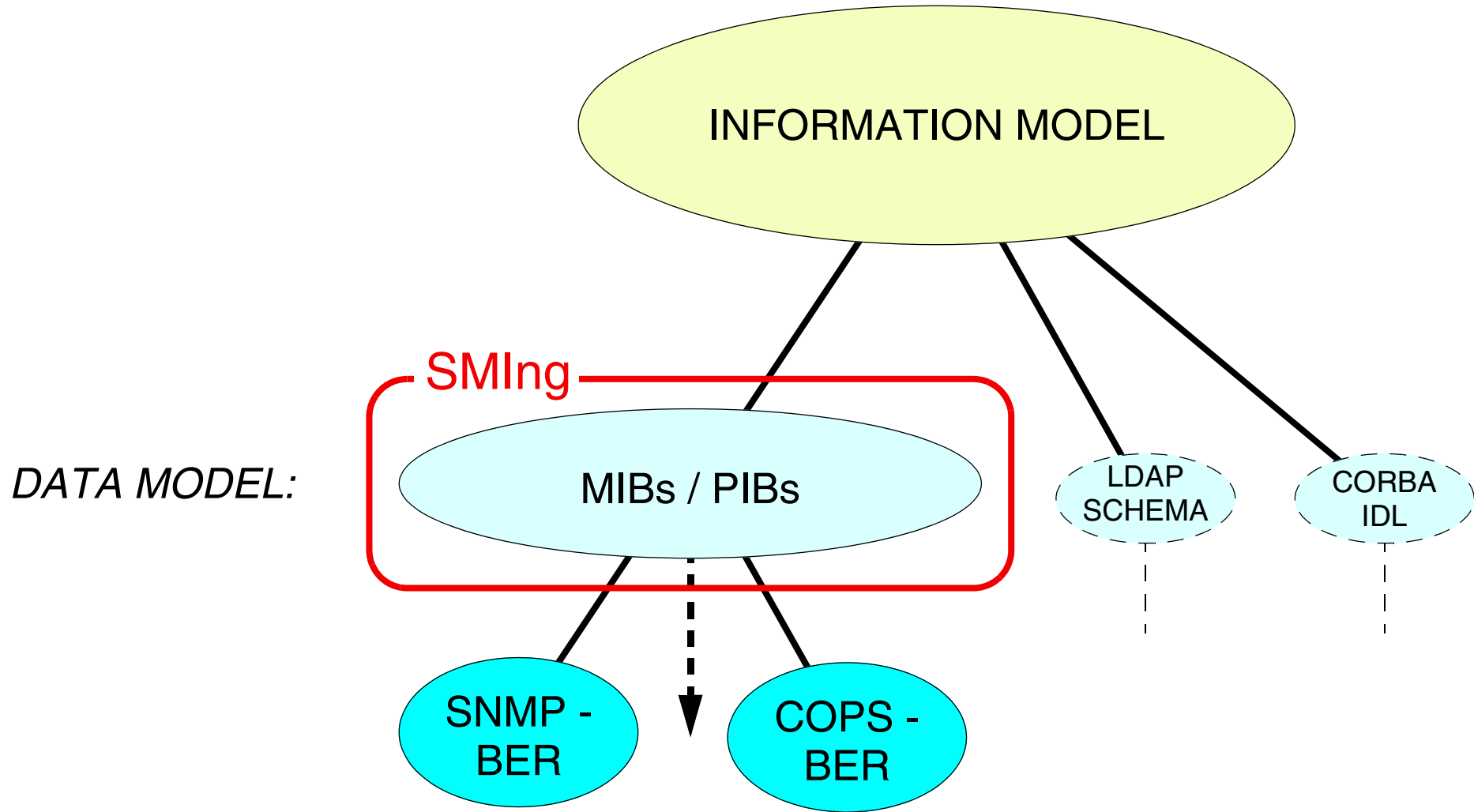
DATA MODEL:



DATA MODEL & "TRANSFER" PROTOCOL



ROLE OF SMIng



SMIv3

IRTF-NMRG PROPOSAL FORWARDED TO IETF

SMIng WORKING GROUP FORMED

SMIv3

2000

SMIv3 OBJECTIVES

ALLOW ARBITRARILY NESTED DATA STRUCTURES
EASE REUSABILITY OF COMPLEX STRUCTURED TYPES

DETAILED LIST OF OBJECTIVES: RFC 3216

HOWEVER:

PROTOCOL INDEPENDENCE NO LONGER DESIRABLE

LANGUAGE EXTENSIBILITY NO LONGER DESIRABLE

FINALLY SMIv3 IS A RELATIVE SMALL UPDATE OF SMIv2