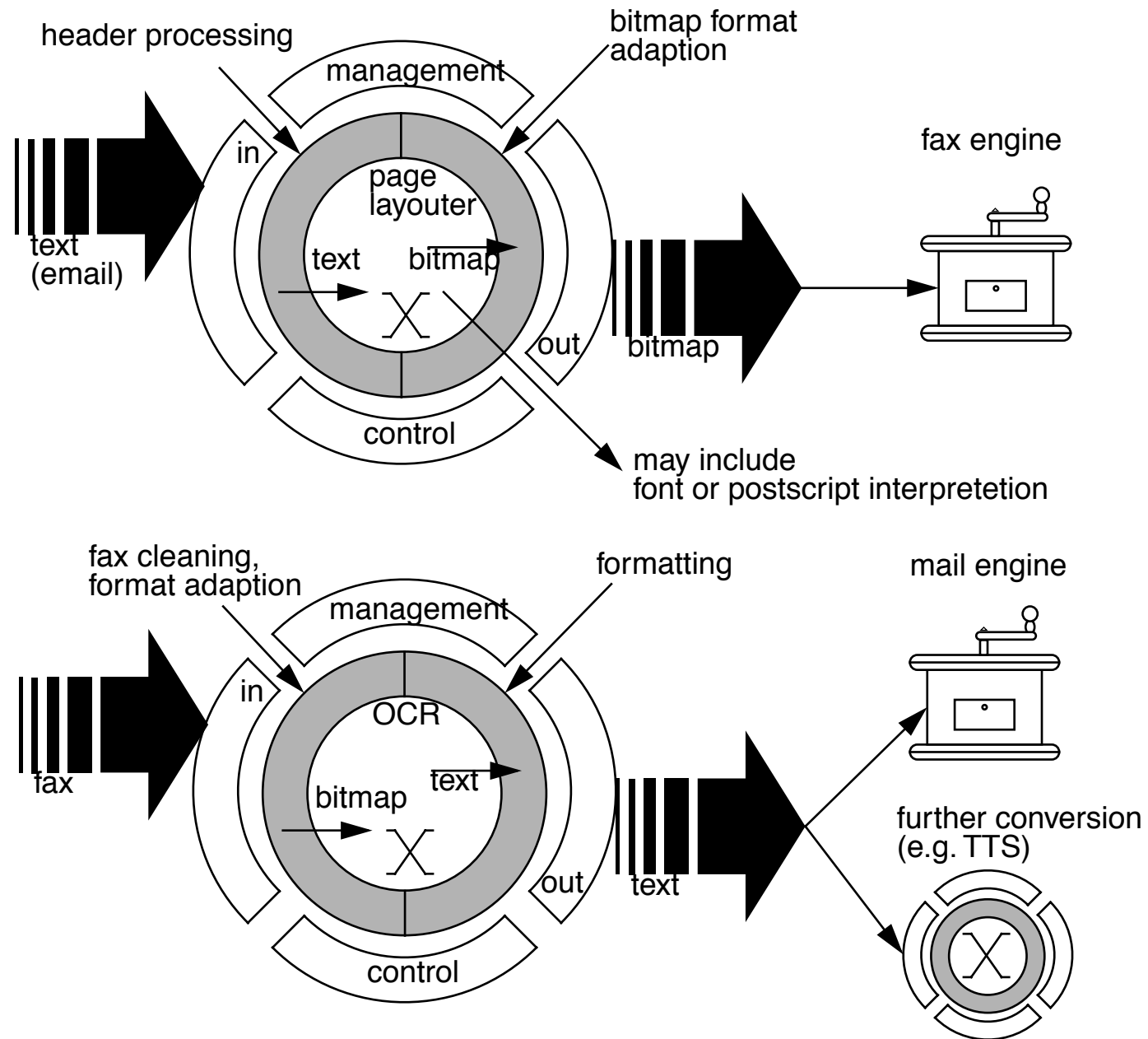


*2nd SPEAK! workshop: Speech Generation in Multimodal  
Information Systems and Practical Applications*

# **Speech synthesis in the Intelligent Personal Communication Support System (IPCSS)**

**Tom Pfeifer**

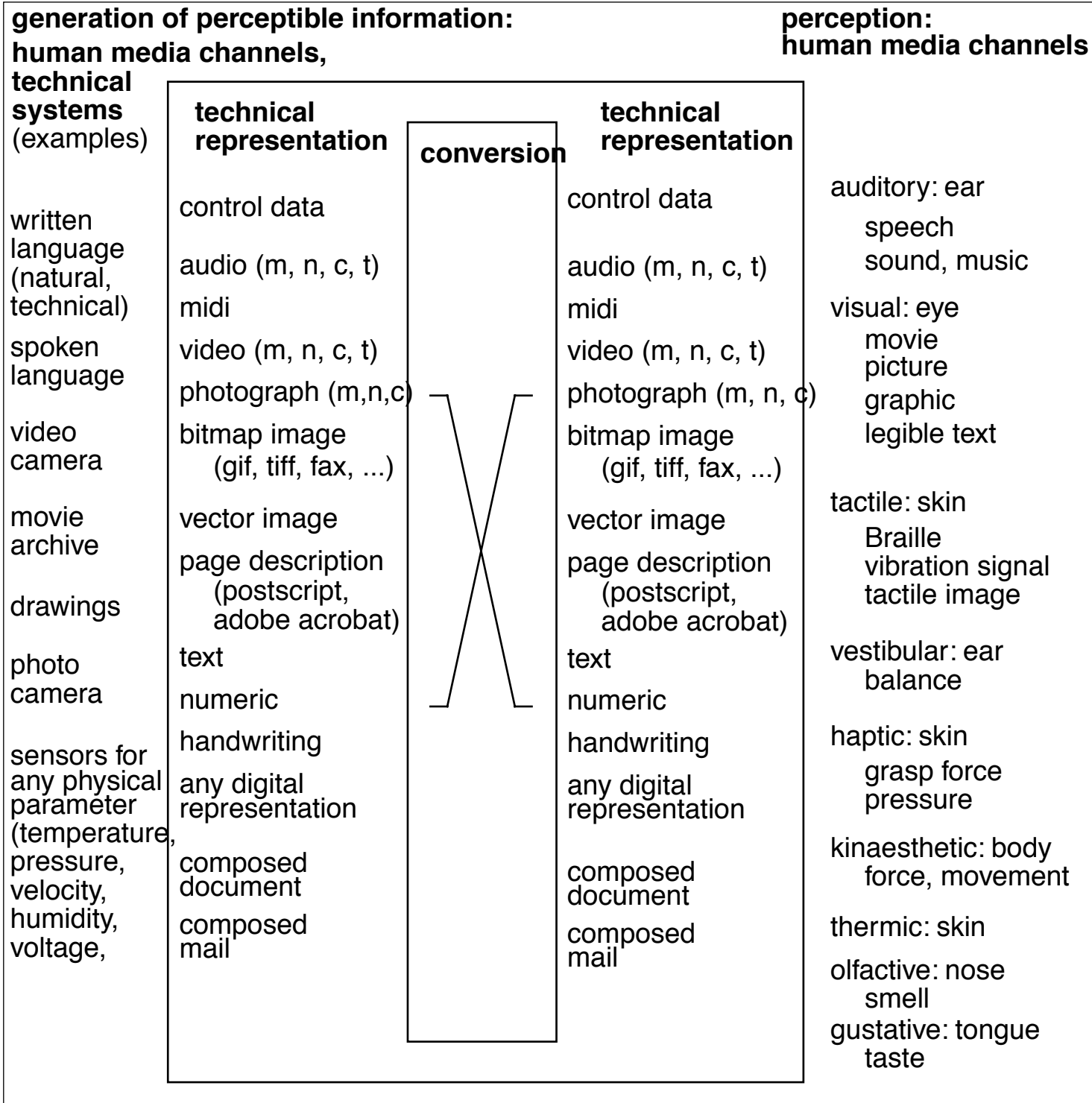
**Technical University of Berlin  
*e-mail: pfeifer@fokus.gmd.de***



## Text-to-Fax and Fax-to-Text conversion

product	manufacturer	operating system	hardware platform	supplemental hardware	languages
TrueTalk	Entropic	UNIX	Sun, SGI		E,
VisualVoice	Stylus Innovations	DOS/WIN	PC	sound card possible	E,
EASE	Expert Systems			Dialogic required	E,
TrueVoice	Centigram	UNIX, DOS	Sun, PC		E,
Dialogic TTS	Dialogic	DOS	PC	Dialogic required	E,
DecTalk	Digital				E,
Lernout & Houspie	Lernout & Houspie	OS/2, DOS/WIN, etc.	various		E, Ger, F, NL, Esp,...
Rhetorex TTS	Rhetorex	UNIX, OS/2, NT	PC	Rhetorex required	E,
BestSpeech	Berkeley Speech-Technologies	DOS, OS/2, UNIX	PC etc.	Dialogic, Rhetorex, etc. possible	E, Ger, F, I, J, NL, Rus
Infovox	Telia Promotor Infovox	DOS	PC	Infovox 500	Ger
Elan Informatique	ELAN Informatique	DOS	PC	Televox Psola-8m	Ger, F

**Table 1: Evaluation of available TTS systems**



parameters:  
m, n: media dependent parameters  
(frame/sampling rate, quantization, resolution, size, color depth, etc.)  
c: applied compression technique  
t: time, duration, etc.

## Generic Conversion Matrix

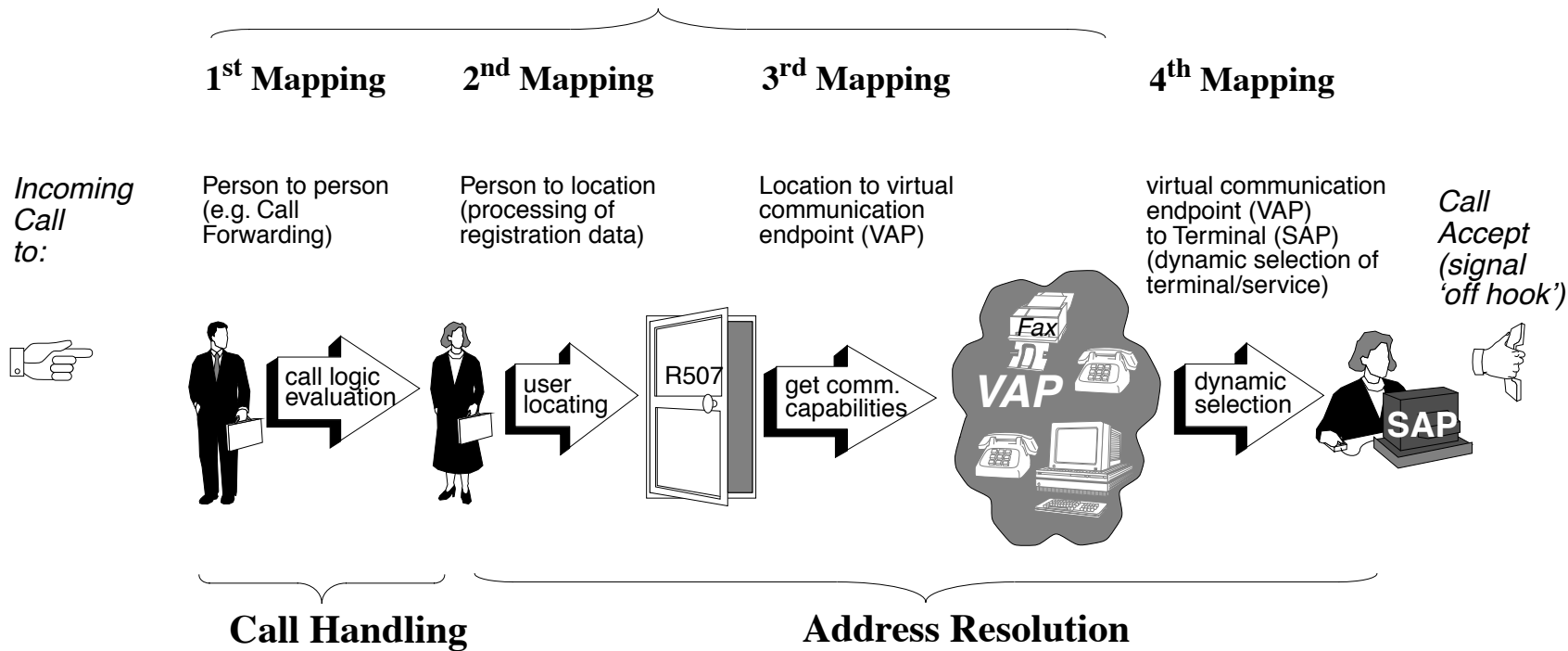
# ***PCSS***

## ***Personal Communications Support System***

- platform enhancing/*personalizing* telecommunications in customer premises networks (CPNs) or office environments
- based on *Telecommunications Management Networks* (TMN)
- addresses two major issues in personal communications:
  - ❑ **personal mobility**
  - ❑ **personalization of services ('service mobility')**
- ☞ realization of a ***personalized communications environment*** that virtually ***moves with*** the user

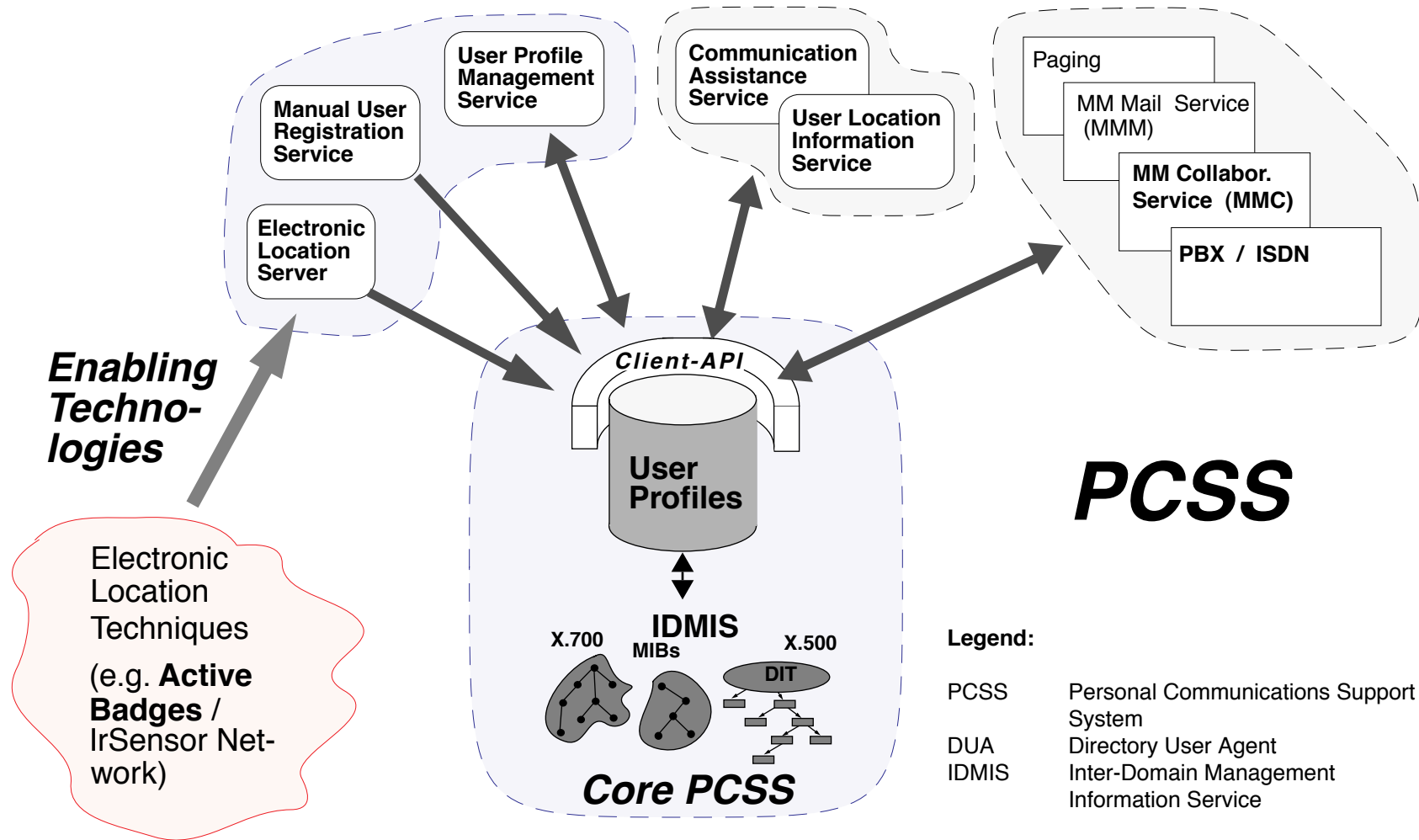
# PCSS Call Processing

*service generic processing*



## PCSS Infrastructure

## PCSS Applications

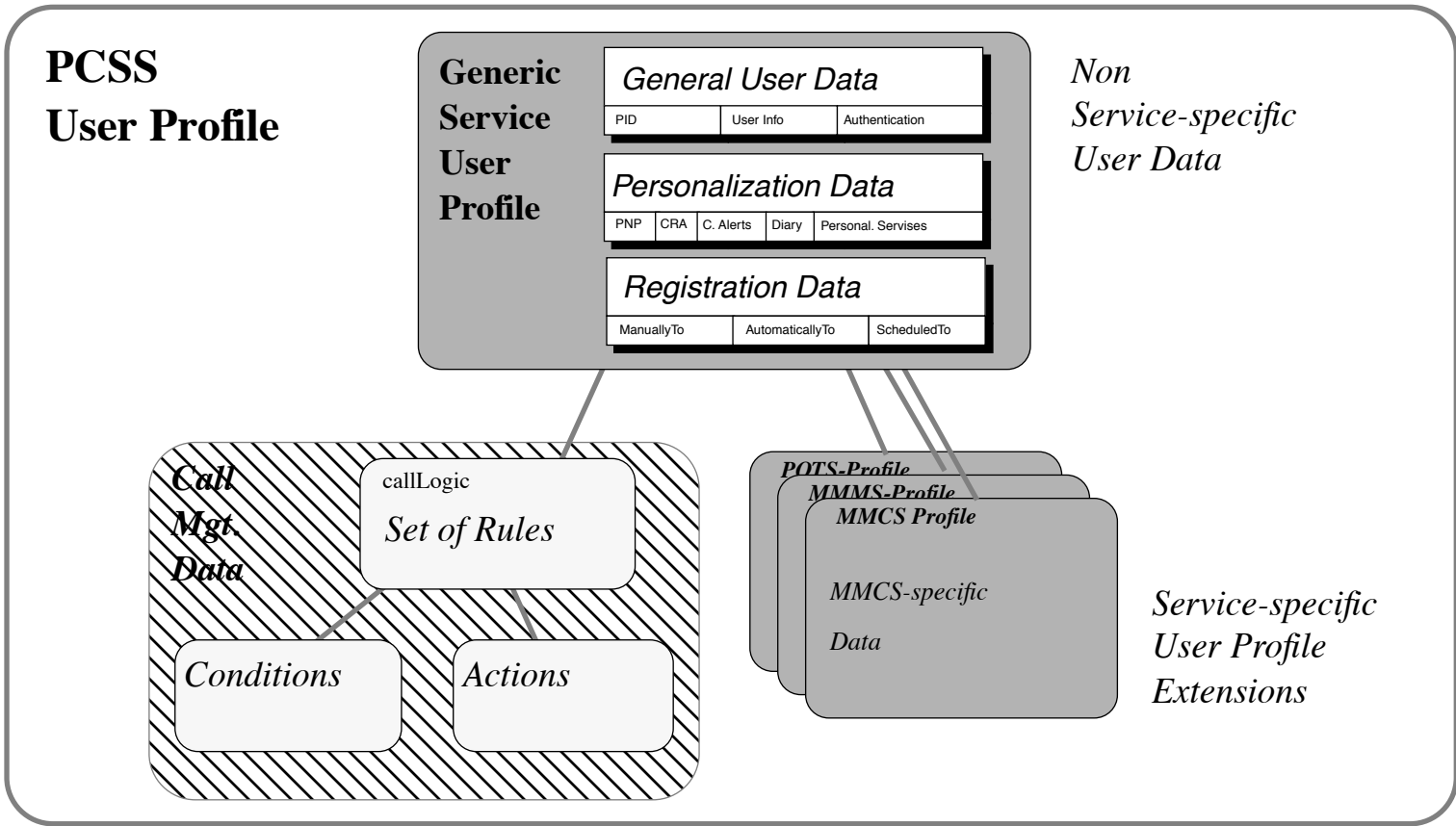


# PCSS



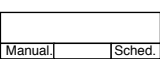

## PCSS Generic Service User Profile (X.500)

Object Type	<i>Must Contain Attributes</i>	<i>(some) May Contain Attributes</i>
pcssGenServiceUser-Profile	pcssPersonalIDKey, pcssProvidedServiceID, <i>(inherited:)</i> CN, surname	pcssAuthenticationNumber, pcssPersonalNumPlanID , pcssPersonalScheduleID , pcssAutomaticRegisterID , pcssManualRegisterID , pcssPersonalCallLogicID, <i>(inherited:)</i> description, seeAlso, telephoneNumber, userPassword, userid, textEncodedORAddress, rfc822Mailbox, roomNumber, userClass, homePhone, homePostalAddress, secretary, personalTitle, preferredDeliveryMethod, businessCategory, otherMailbox, mobileTelephoneNumber, pagerTelephoneNumber, organizationalStatus, mailPreferenceOption, personalSignature



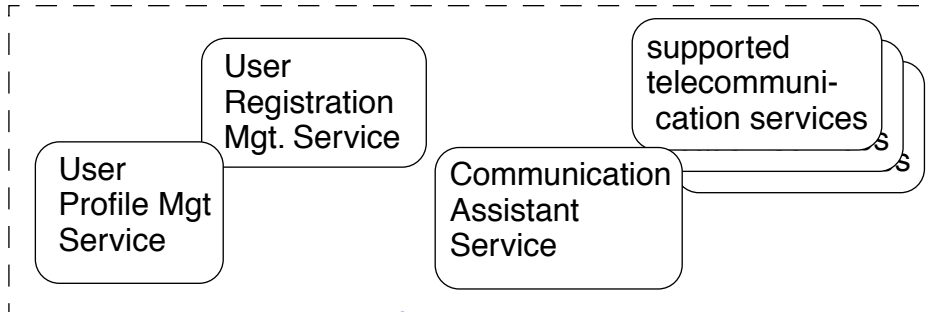


**Legend:**

-  containment relationship
-  object instance
-  attribute(s)
-  object group (sub-tree)

# PCSS Platform

*PCSS-specific Management Services & supported tele-services*



## PCSS User Agent-API

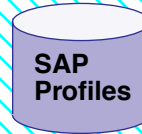
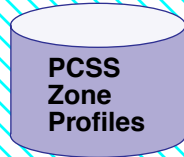
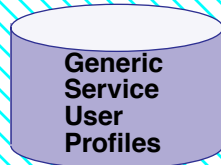


*(provided as PCSS-specific MSCs / MFs)*

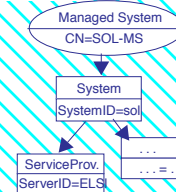
## PCSS - Applications Framework

IDMIS (integrated X.500 / X.700 access)

global PCSS data(X.500)



PCSS-MIB



## ***Future Perspectives***

- ❑ **Interworking** between different types of teleservices:  
Inter-working Function (IWFs)
- ❑ Dynamic terminal-selection based on **Trader** function:  
Virtual Terminal, Virtual Access Points (VAPs)
- ❑ Interworking of remote PCSSs: **Federation** of PCSSs
- ❑ Generic Support for **Session Mobility**