



Forschungszentrum Telekommunikation Wien
[Telecommunications Research Center Vienna]

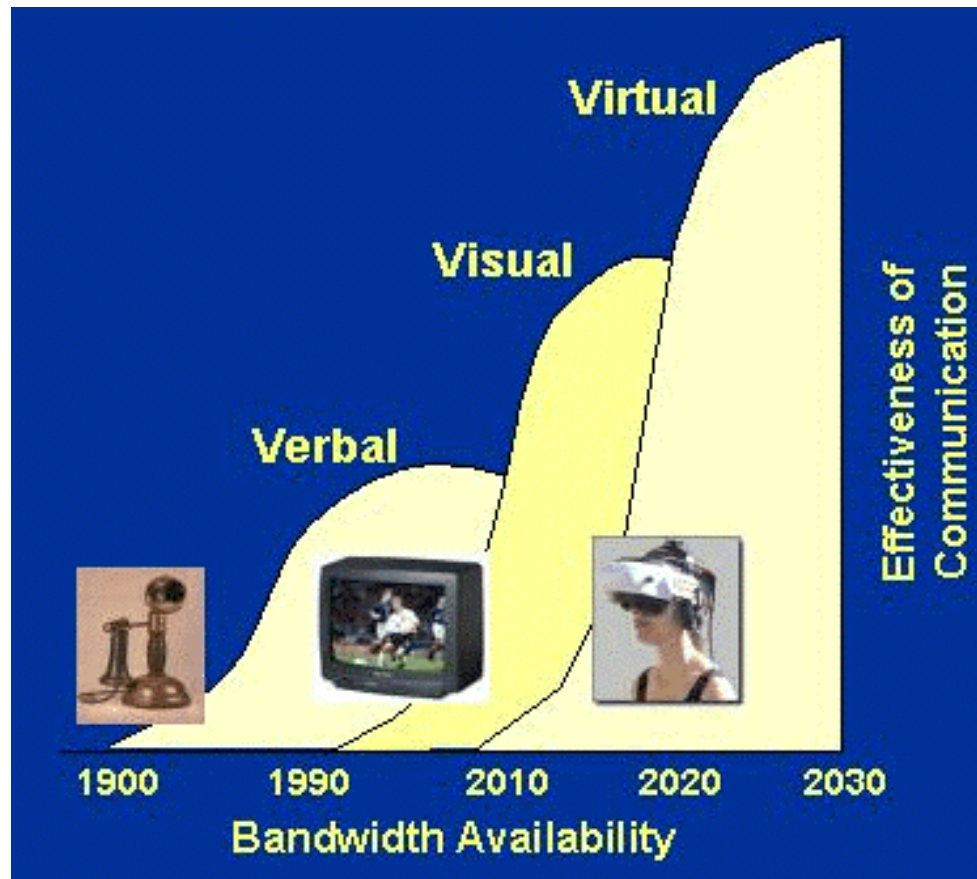
An Interdisciplinary Telecom Portal

Kerstin Zimmermann

Table of contents

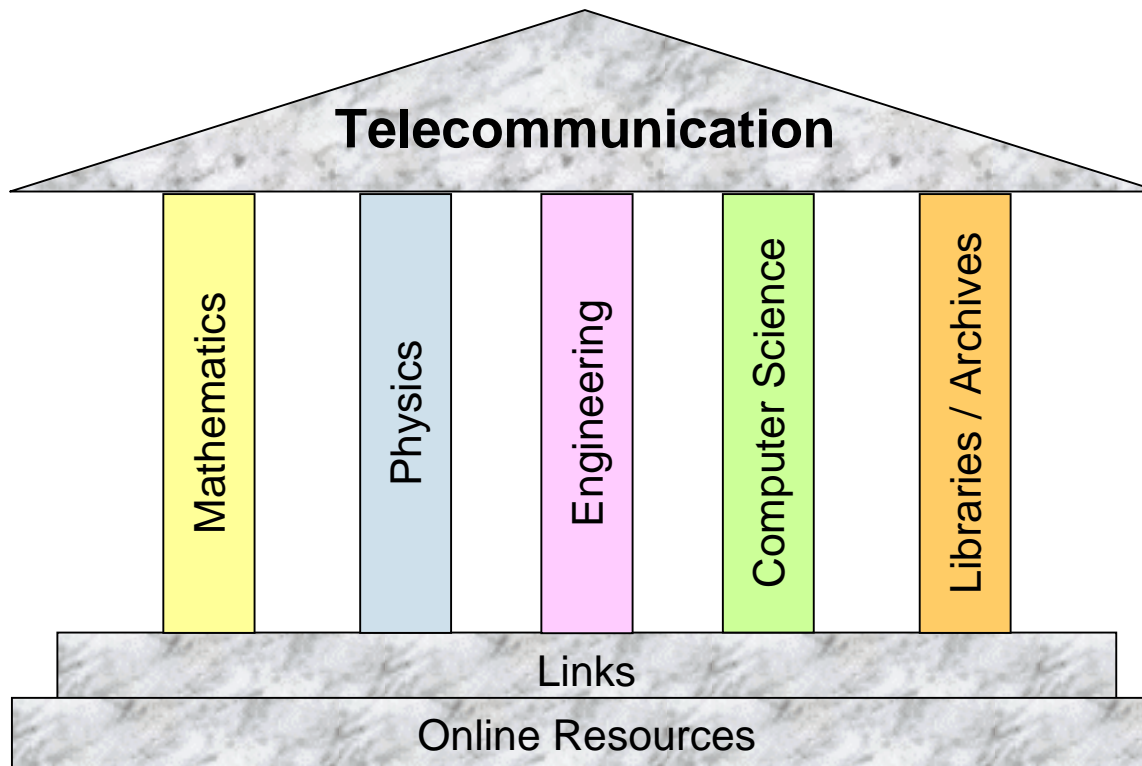


- Interdisciplinarity
- Scenario
- Classifications
- Portals
- Knowledge Management



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Interdisciplinarity



Scenario



A new research topic becomes more and more important.

I need further information !

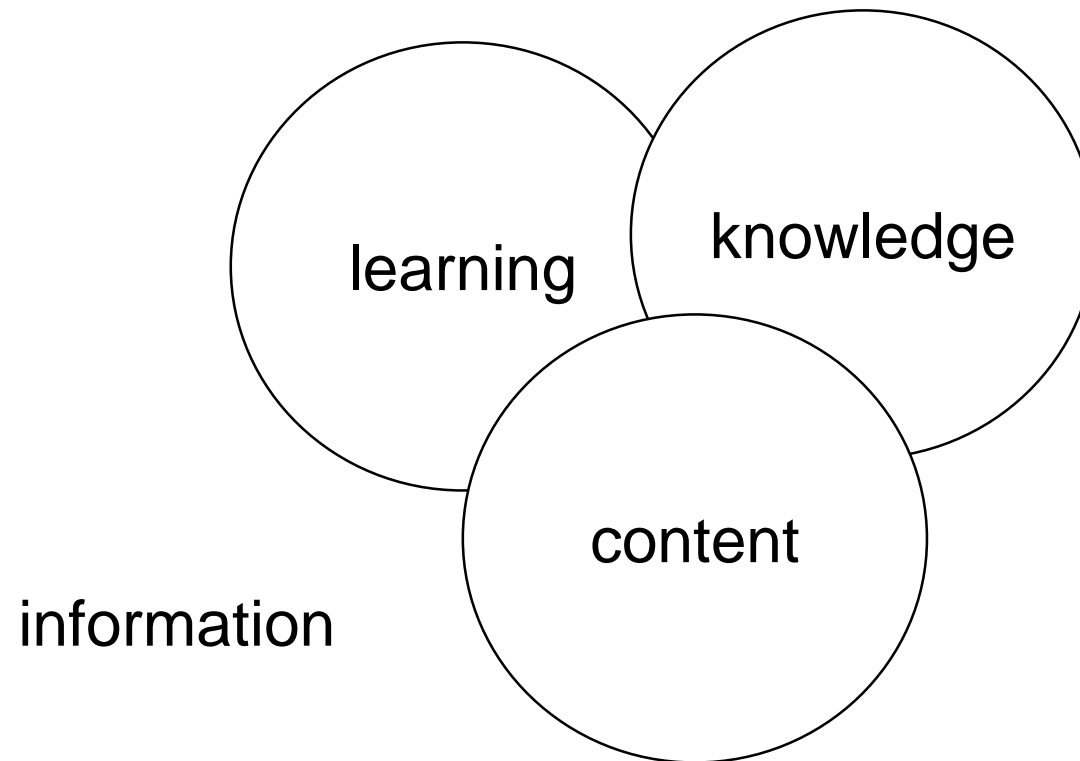
- Who is working in this field?
 - other research groups ?
- } Addresses
-
- What is state of the art ?
 - background info ?
- } Documents

Research Inst located at

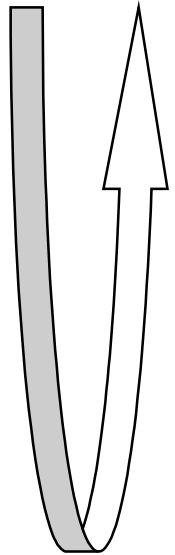


- Computer Science
- Communications systems
- Communications Engineering
- Electronic / Electrical Engineering
- Information technology
- Mathematics
- Networks
- Physics
- Signal Processing
- Telematics
- etc. ...

Connections between



Definitions



- Sign
- Data
pure material
- Information
data with context
- Knowledge
interpretation of information
- Wisdom
networked knowledge



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Information Management



- To discover the unexpected, verify the expected and make it available for re-use.

Thomas '01

Knowledge Organization

- not only publication but documentation

Start Page



Research Information Portal for Telecommunications

- [home](#)
- [research institutes](#)
- [documents / infos](#)
- [conferences](#)
- [definitions](#)
- [standards](#)
- [legal](#)
- [related](#)
- [search](#)
- [provider](#)

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ftw.
upload 5/2001
update 10/2002

Thanks to my colleagues

**Welcome
to an
Academic Service**

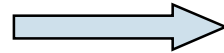
meta data
keywords

Categories



home

research institutes



Departments and ongoing projects sorted by country

documents / infos



Publications sorted by country
white papers, journals / online archives,
other resources

Standards



Forums, Organizations, classifications

definitions



terminology

conferences



Relevant events sorted by topic and date

provider



list inter/national

legal



Authorities and acts sorted by country

related



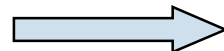
Ministries and close by

(search)



not yet implemented

email



Contact

about



background information about the project

Fact, Data, Statistics



- 174 Inst. in 32 countries
- AT (9), AU (8), BE (1), CA (6), CH (4), CO (1), CY (1), CZ (1),
- DE (39), DK (3), ES (3), FI (6), FR (4),
- GR (2), HK (1), HR (1), HU (2), IE (1), IL (2), IN (3), IR (2), IT (7),
- JP (2), KR (2), NL (4), NO (2),
- PL (2), PT (1), RO (1), SE (7), UK (6), US (40)

-> min. 3000 researcher worldwide

- some < 5 page views per day from outside

Classification Schemes



DDC (America)
Dewey Decimal Classification

003.5 theory of communication and control
003.54 information theory
004 Data processing Computer science
500 Natural sciences & mathematics
 Science
510 Mathematics
530 Physics
600 Technology (Applied sciences)
 Technology
620 Engineering / allied operations
621 Applied physics

UDK (Europe)
Internationale Universale Dezimalkl.

004 Computer Science
500 Mathematical and Natural
 Science
510 Mathematics
530 Physics
600 Applied Sciences. Medicine.
620 Engineering, Technology in
 general
 621.3 Electrical engineering
 621.38 Electronics
654 **Telecommunications**

ACM Computing Classification Scheme

B.4 Input / Output and Data Communications

C.2 Computer-Communication Networks
 C.2.1 Network Architecture and Design
C.4 Performance of Systems

D.4 Operating Systems
 D.4.4 Communications Management
 D.4.6 Security and Protection

E.4 Coding and Information Theory
H.3 Information Storage and Retrieval
J .2 Physical Sciences and Engineering

IPC International Patent Classification

H 03 Basic electronic Circuitry
H 03 B Generation of Oscillations, Directly or by Frequency-Changing, by Circuits
 Employing Active Elements which operate in a non-switching Manner;
 Generation of Noise by such Circuits
H 03 C Modulation
H 03 D Demodulation or Transference of Modulation from one Carrier to another
H 03 F Amplifiers
H 03 G Control of Amplification
H 03 H Impedance Networks, e.g. Resonant Circuits; Resonators
H 03 J Tunnin Resonant Circuits; Selecting Resonent Circuits
H 03 K Pulse Technique
H 03 L Automatic Control, Starting, Synchronisation, or Stabilesation of Generators
 of Electronic Oscillations or Pulses
H 03 M Coding, Decoding or Code Conversion, in general

H 04 Electric Communication Technique
H 04 B Transmission
H 04 H Broadcast Communication
H 04 J Multiplex Communication
H 04 K Secret Communication; Jamming of Communication
H 04 L Tranmission of Digital Information
H 04 M Telephonic Communocation
H 04 N Pictorial Communication
H 04 Q Selecting

MSC	Mathematical Subject Classification
94-XX	Information and communication, circuits
94Axx	Communication, information
94A05	Communication theory
94A08	Image processing (compression, reconstruction, tec.)
94A11	Application of orthogonal functions in communication
94A12	Signal theory (characterization, reconstruction, etc.)
94A13	Detection theory
94A14	Modulation and demodulation
94A15	Information theory, general
94A17	Measures of information, entropy
94A20	Sampling theory
94A24	Coding theorems (Shannon theory)
94A29	Source coding
94A34	Rate-distortion theory
94A40	Channel models
94A45	Prefix, length-variable, comma-free codes
94A50	Theory of questionnaires
94A55	Shift register sequences and sequences over finite alphabets
94A60	Cryptography
94A62	Authentication and secret sharing
94A99	None of the above, but in this section
94Bxx	Theory of error-correcting codes and error-detecting codes
94B05	Linear codes, general
94B10	Convolutional codes
94B12	Combined modulation schemes (including trellis codes)
94B15	Cyclic codes
94B20	Burst-correcting codes
94B25	Combinatorial codes
94B30	Majority codes
94B35	Decoding
94B40	Arithmetic codes
94B50	Synchronization error-correcting codes
94B60	Other types of codes
94B65	Bounds on codes
94B70	Error probability
94B75	Applications of the theory of convex sets and geometry of numbers (covering radius, etc.)
94B99	None of the above, but in this section
94Cxx	Circuits, networks
94C05	Analytic circuit theory
94C10	Switching theory, application of Boolean algebra; Boolean functions
94C12	Fault detection; testing
94C15	Applications of graph theory
94C30	Applications of design theory
94C99	None of the above, but in this section

PACS Physics and Astronomy Classifications Scheme

01.20.+x Communication forms and techniques (written, oral, electronic, etc.)

02.05.-r Probability theory, stochastic processes, and statistics

84.40.Az Waveguides, transmission lines, striplines

84.40.Ba Antennas: theory, components and accessories

84.40.Ua **Telecommunications**: signal transmission and processing; communication satellites

84.40.Xb Telemetry: remote control, remote sensing; radar

89.70.+c Information Science

Online Archive



- CiteSeer
Computer Sciences <http://researchindex.org/>
500.000 docs
- IEEE Xplore
Engineering <http://ieeexplore.ieee.org/>
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- arXiv.org <http://www.arxiv.org/>
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Start Page in Physics



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Start Page in Mathematics



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an International Information and Communication System

	About	Charter	Events	
Services				Contact
Standards				CEIC
Tools				Providers
Documentation				TAB
	Recommendations	Membership	Member Associations	

News

Last Update: April 12, 2002 Disclaimer

Combined Providers in Physics



AKD
Advanced Knowledge
in Science and Technology

Fachwelt-Physik
ein Physik Fachportal für Wissenschaft und Hochschule

contact about fachportal-physik.de is an initiative of the AKD, of the DPG, of the FPT, and of the KFP

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www.fiz-informationsdienste.de Fachinformationszentrum Karlsruhe

www.isn-oldenburg.de Institute for Science Networking Oldenburg GmbH
an der East West University

www.physik.org Physik organisiert

www.tib.uni-hannover.de UB/TIB

www.wiley-vch.de WILEY-VCH

[Principles, Rules](#) [Internal Sites](#)

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Databases (commercial)



- INSPEC IEE
 - for Physics, Electronics and Computing

- STN The Scientific and Technical Information Network
 - <http://www.stn-international.de/>
 - FIZ Karlsruhe

- Web of Science WoS ISI
 - Science Citation Index
 - <http://www.isinet.com/isi/products/citation/sci/>

Comparison of categories



PhysNet 1995 -	MathNet 2002 -	Fachwelt Physik 2002 -	Telecom Portal start 2002
PhysNet	CEIC	Home	home
New	News	News-Services	-
Services	Services	Institutions	research institutes
PhysDoc		Documents	documents / infos
PhysDep	Standards	Databases	standards
Upload Form	Tools	People / Experts	-
Journals	Documentation	-	definitions
Charter	Charter	-	-
Education	-	Studentical Stuff, Learning-Material	-
Conferences	Events	Conferences	conferences
-	Providers	Software	provider
PhysJobs	-	Jobs	-
statistics	Recommendations	Funding	legal
contribute	Membership, Member Associations	Chat / Discussion	-
Links	-	Links / Others	related
-	-	Search-Engines	(search)
crew	TAB	AKI	name
-	Contact	contact	email
about	About	about	about

Knowledge Management

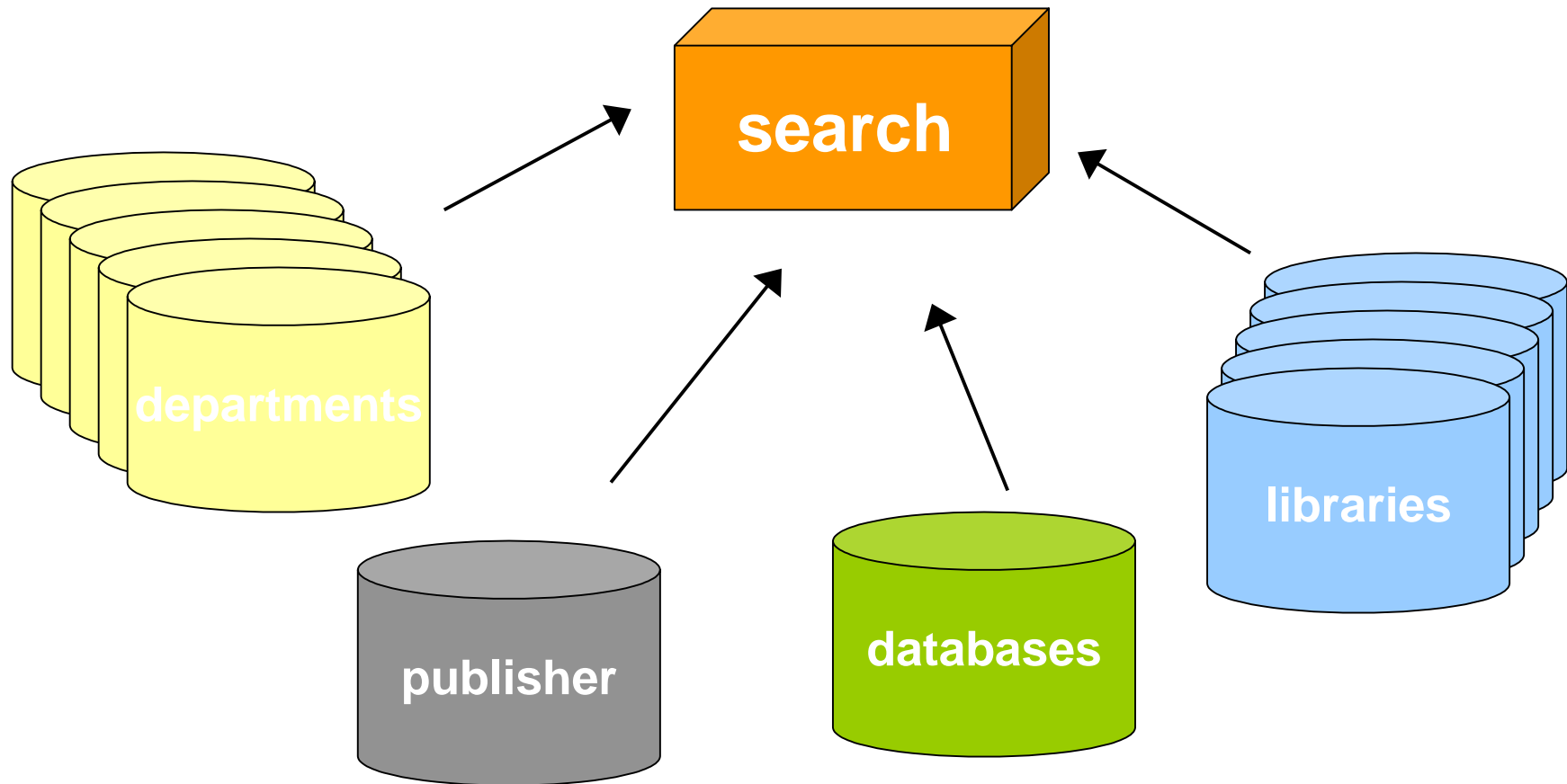


- Puts
- people first
 - organizational issues second
 - technology third

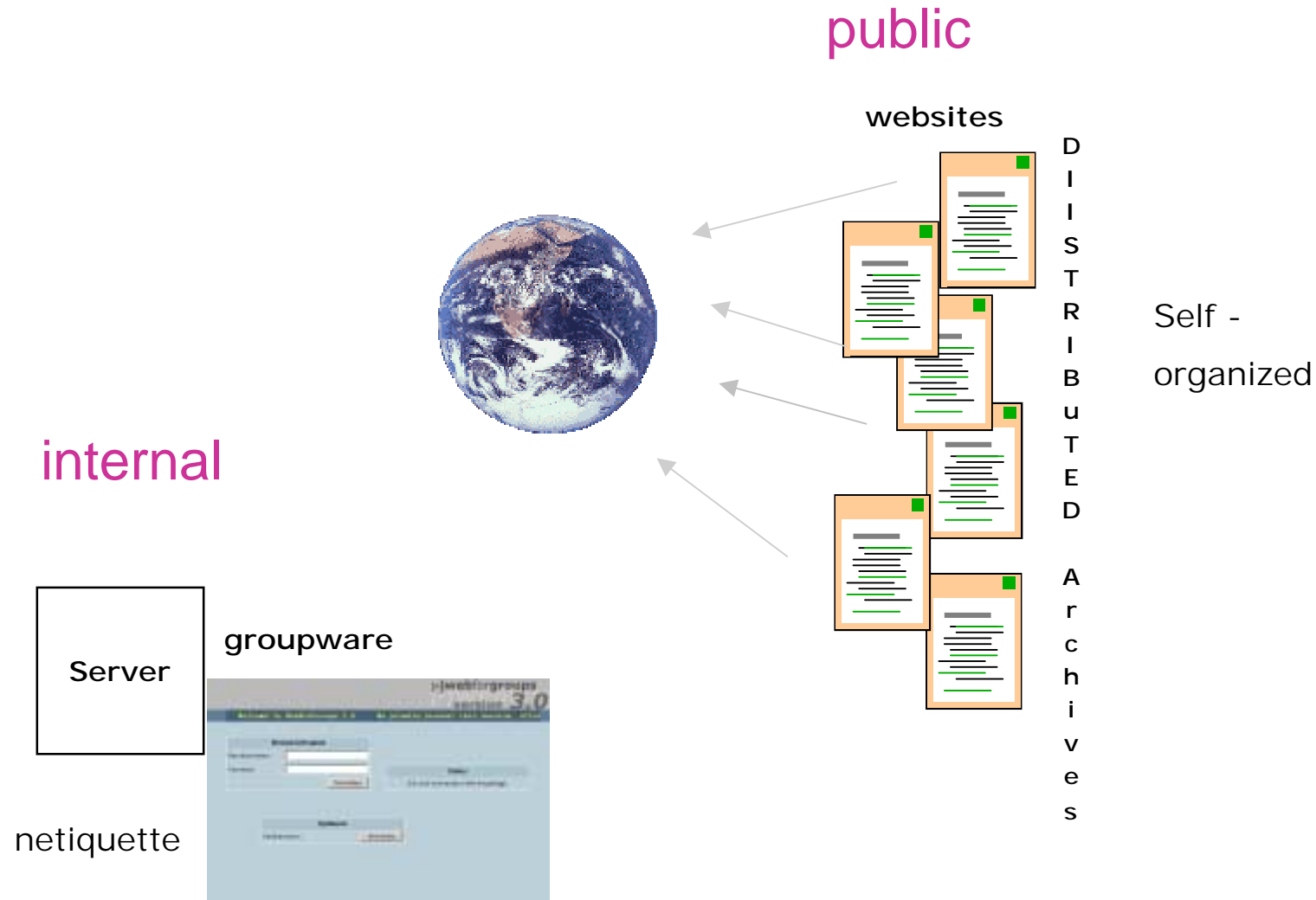
Really added value needs

- open enterprise / community culture
- Fearless communication channels
- Adequate IT-infrastructure

Indexed servers



System local <-> worldwide



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Visiones, Questions, Comments



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