Naming	Naming and addressing				
	• entity				
□ Names	• we must be able to				
□ Identifiers	• refer to an entity				
Addresses	• localize an entity				
	• access an entity				
	• synchronize an entity				
	address				
	• an access point to an entity				
	□ name				
	• identifies a (type of) entity without showing its actual address				
	 location independent 				
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Naming and addressing (2)	Naming and addressing (3)				
identifier	identification system				
• a name that fulfills:					
 a refers to at most one antity. 	Names manual to addresses				
 refers to at most one entry each entity is referred to by at most one identifier 	• Ex. name \rightarrow address				
• an identifier always refers to the same entity	The system needs to use mapping tables				
	The system needs to use mapping tables				
□ name what					
address where					
□ route how					
identification system					
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N ₁			N_2			N ₃	
P	P2			P ₃		P ₄	P5
<u> </u>	. 11			4 1 1	1 1	<u> </u>	
Process P ₁ P ₂	Address 026435 014266	Pro P ₃	cess 1	Address		Process P ₄ P ₅	Address 025632 014266
Node	Address]	Proces	s Loca	l address	Global	address
N ₁ N ₂ N ₃	033564 012734 017236		$\begin{bmatrix} P_1 \\ P_2 \\ P_3 \\ P_4 \\ P_5 \end{bmatrix}$	0264 0142 0152 0256 0142	35 66 48 32 66	033564 033564 012734 017236 017236	/026435 /014266 /015248 /025632 /014266



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			Nam	ies						
Naming with location transparency										
	N ₁	N ₂				N_3				
	P ₁ P ₂			P ₃		P ₄	P5			
	1	$\begin{array}{ c c }\hline Process\\ \hline P_1\\ P_2\\ P_3\\ P_4\\ P_5\\ \hline \end{array}$ Needs one m	Local name P ₁ P ₂ P ₃ P ₄ P ₅ ore internal s	$ Gh P_1 P_2 P_3 P_4 P_5 system t $	obal name	:				
			$\begin{array}{c} Process\\ P_1\\ P_2\\ P_3\\ P_4\\ P_5 \end{array}$	$N_1 \\ N_1 \\ N_2 \\ N_3 \\ N_3$	-					



Symbolic names Internet □ Internet Port is called Socket □ *Name Server*, catalogue • When program wants to print it only needs to give a symbolic name. \bigcirc can be used using: • Then the system will find it (even if it has been moves) • TCP - connection • UDP - connection less General First the socket's Host must be found using its IP identity. N₂ Name server N_3 N LaserWriter M_1 M_2 M_3 9 (13) - DISTRIBUTED SYSTEMS Naming - Sven Ame Andreasson - Computer Science and Engineering 10 (13) - DISTRIBUTED SYSTEMS Naming - Sven Arne Andreasson - Computer Science and Engineering () CHALMERS CHALMERS **Location Transparency** E-mail addresses (Internet) E-mail addresses could be categorized according to O person □ Fully Location Transparency • Flat naming: An entity has the same name wherever it might reside. • geography O organization · easy to send to • the system must take care of finding the entity: **O** type - broadcast (normally expensive) - forwarding (must know where to start) E-mail addresses on Internet are a mixture of this!: - some lookup mechanism andreass@chalmers.se • Structured naming • **not** geographical transparent • name servers to find the entity • both geography (se) and organization (chalmers) xx@ericsson.com • type (com) organization (ericsson)

INTERNET addressing

- geographical
 - country: se, no, dk, uk
- organization
 - company name, subdivision: ericsson, ibm, cs.chalmers

O type

- edu for education
- com for companies
- net for network services.
- netcom for private persons
- mil for military use.
- mixture of the above

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