

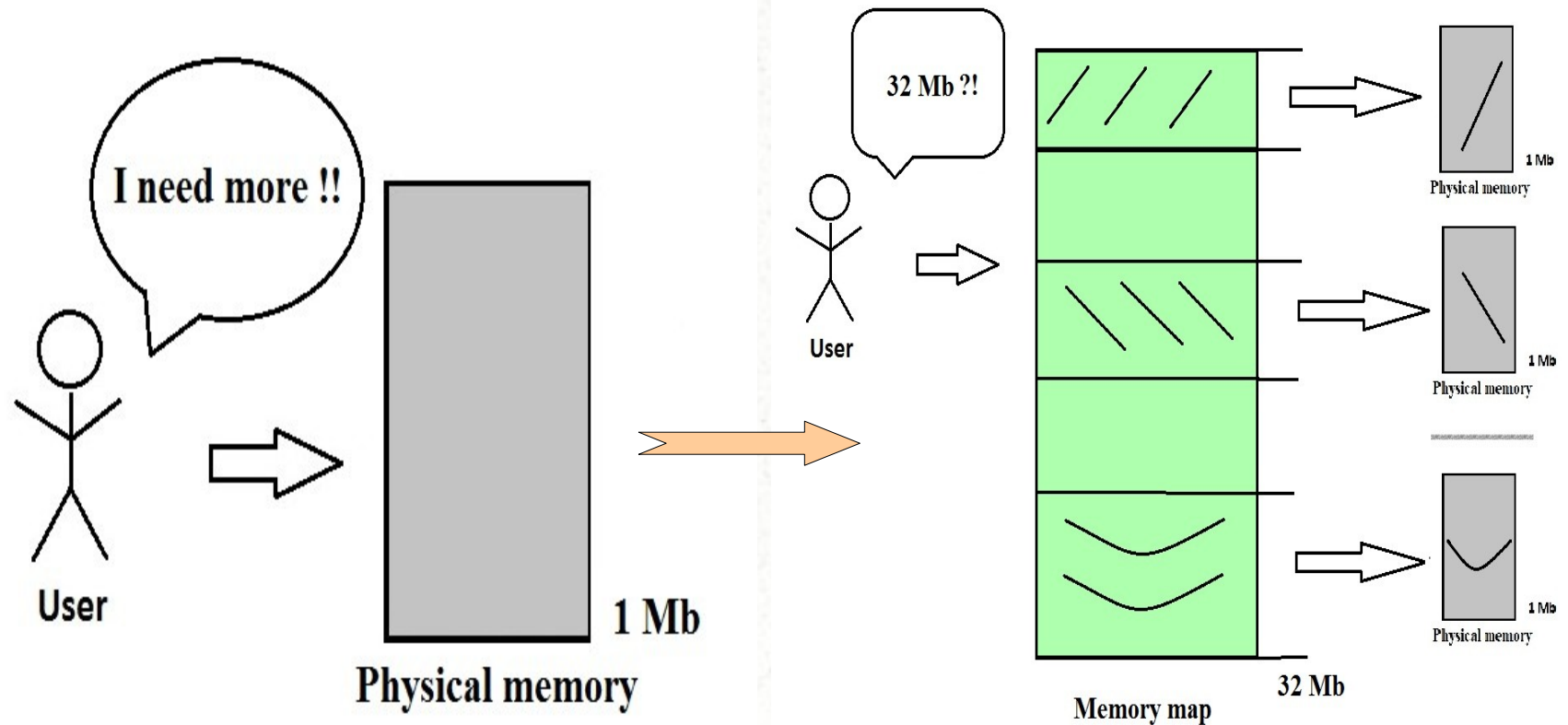
Distributed memory management

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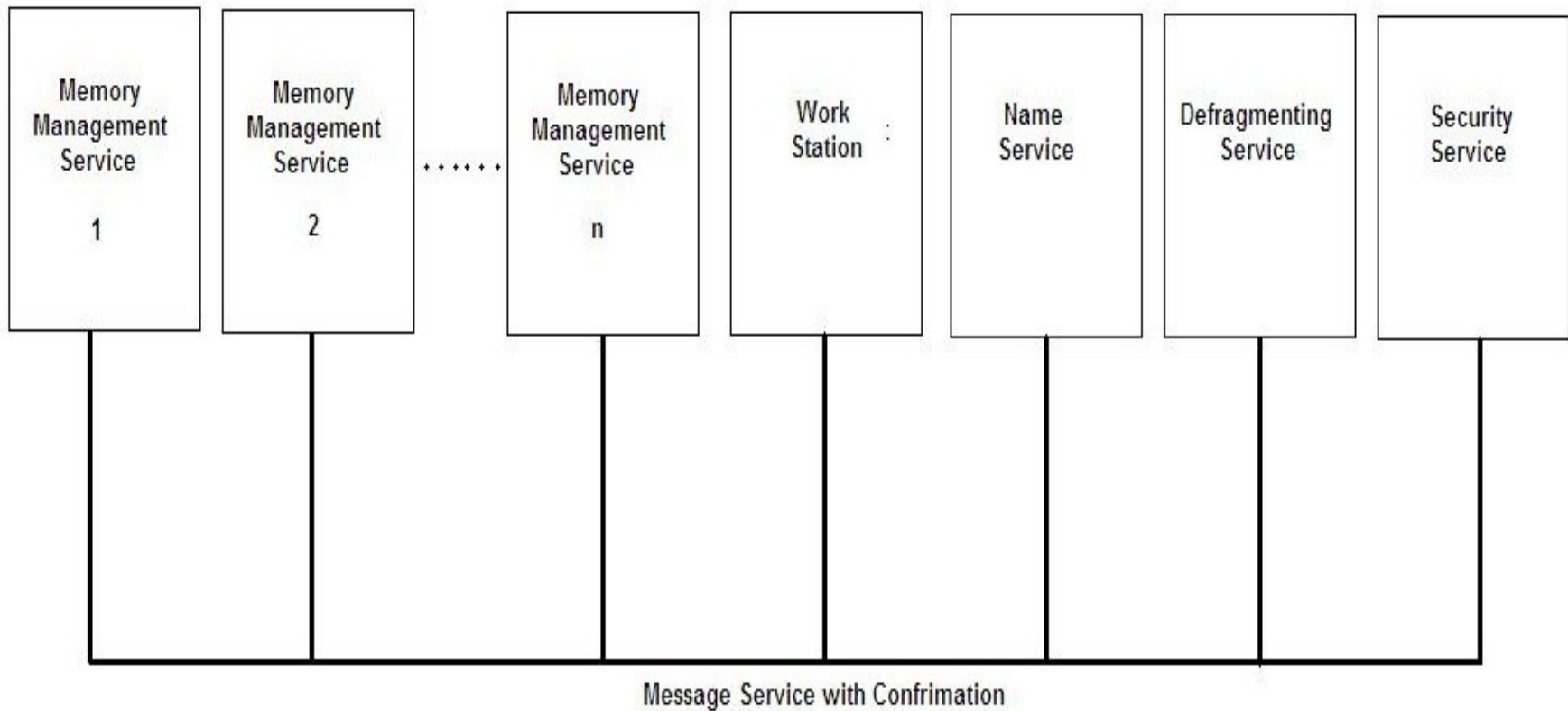
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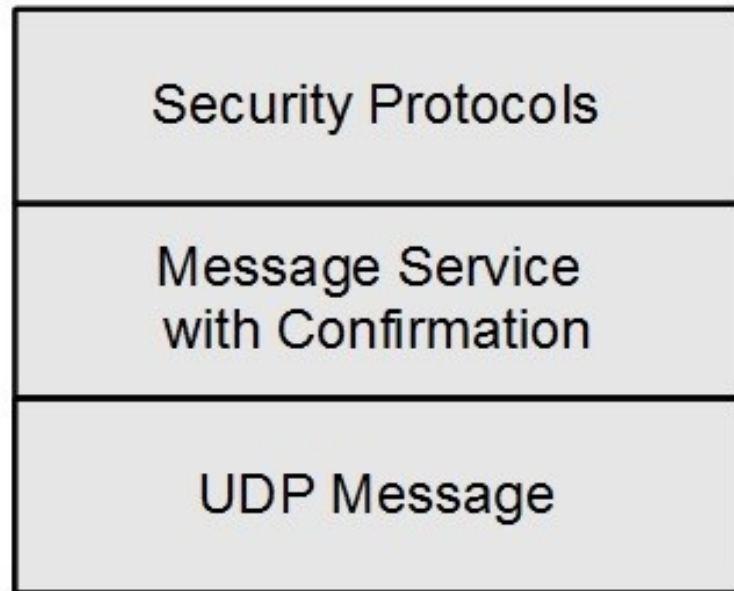
Introduction



Overview

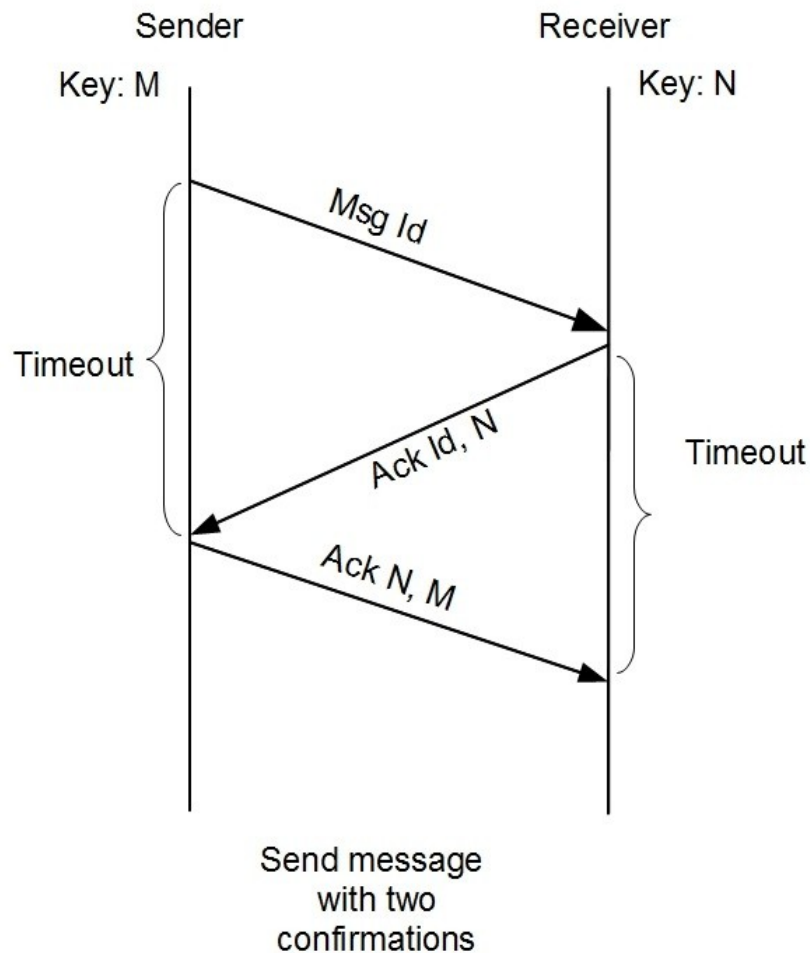


Components – Communication layer



- Request – response
- Use UDP
- Add confirmation
- Add encryption

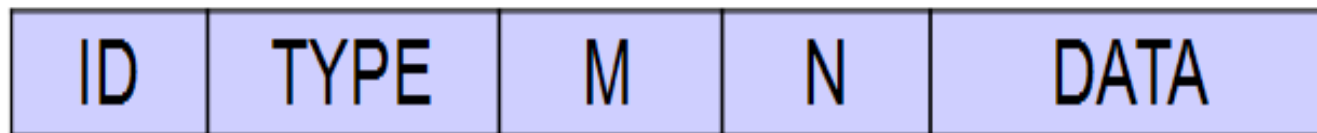
Components – Communication layer



- Message types:
 - 'No Confirmation'
 - 'Confirmation 2'
 - 'Confirmation 3'
- Security layer
 - Not implemented

Components – Communication layer

- M – sender key
- N – receiver key
- Used with 'Confirmation 3' only
- ID – unique identifier
- TYPE
- DATA



Components – Name Server



- Servers
 - Register
 - Unregister
- Clients
 - Server list
 - Redirect

Components – MMS

- Subscribe to Name Server
- Provide
 - Storage
 - Accessibility:
 - Allocate space or free a memory block
 - Read and Write
- Unsubscribe from Name Server

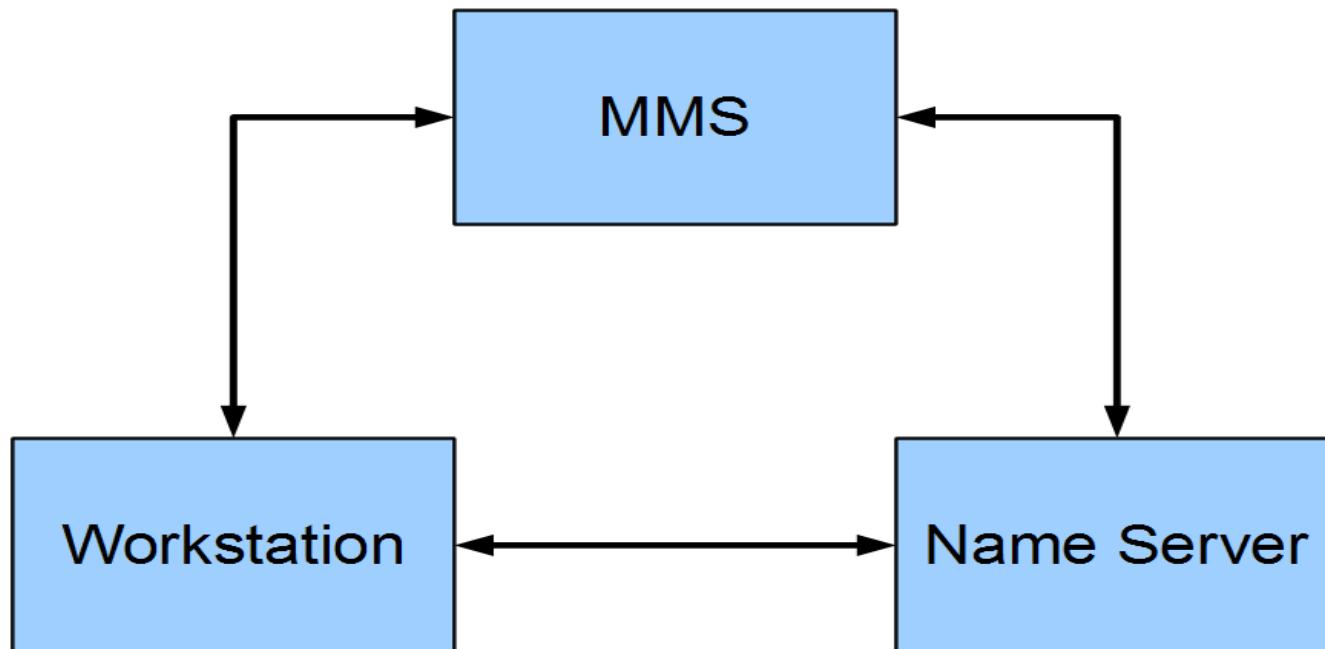
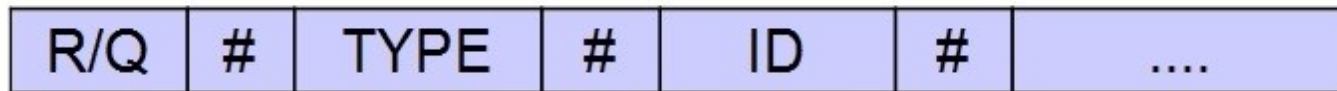
Components – Workstation

- Used for testing
- Client API
 - Hide internal structure
 - All memory locations seen as one
 - Handle user – system interaction
 - Functions:
 - Allocate or free block
 - Read or Write form a memory block

Components - Security Protocols

- Use with stored data
- Provide data security
- Encryption or ex. access keys
- Left for future development

Communication Protocols



Communication Protocols

Name Service – MMS

- Request

Q	#	Q_REG_SERVICE	#	ID	#	PORT	#	Service Type
---	---	---------------	---	----	---	------	---	--------------

- Response

R	#	MSG TYPE	#	ID
---	---	----------	---	----

- Message type:
 - R_REG_SERVICE_OK
 - R_REG_SERVICE_ERR

Communication Protocols

Name Service - Workstation

- Request

Q	#	Q_GET_SERVICES_LIST	#	ID
---	---	---------------------	---	----

- Response

R	#	R_SERVICES_LIST	#	ID	#	NR_OF_SERVICES	#
---	---	-----------------	---	----	---	----------------	---	-------

- The '....' area

IP1	#	PORT1	#	SEVICE_TYPE1	#	..	IPn	#	PORTn	#	SERVICE_TYPEn
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Communication Protocols

MMS – Workstation

- Functions: ALLOC, FREE, WRITE, READ
- Example:
 - Request Q_WRITE_A_BLOCK
 - Response:
 - R_WRITE_BLOCK_OK
 - R_WRITE_BLOCK_ERR
- Extra: Q_GET_NR_OF_FREE_BLOCKS

Thank you!