The client services → In this section we are going to discuss about the services which are provided by c/s appl^n. A ideal c/s platform works in an open system environment using discipline that is based on well defined std. this type of an open environment also enables the servers to change their o.s. and h/w components without affecting the working client appl^n.

The main services which are provided by client are as follows -

(1) Request for services
(2) Remote procedure Block (RPB)
(3) fax / Print services
(4) window services
(5) Remote Booth services
(6) other remote services
(7) Utility services
(8) msg services
(9) N/w services
(10) Appl^n services
(11) Database services
(12) N/w mgt services
(13) Dynamic data exchange (DDE)
(14) object linking and embedding (OLE)
(15) CORBA

(1) Request for services → It is well known at the client for the services provided by the servers is a local server and remote server. The appl^n format of the request image remains the same. we have to use a ~~nos~~ s/w (N/w o.s.).

NOS provide a service called as redirection. The service intersacts client work station O/S call and then redirects them to the server O/S. —

The NOS requester s/w construct the remote processor call (RPC) to include the API call to the NOS s/w.

(2) Remote Procedure Block (RPB) →

(3) fax/ Print Services → At the client side the request is generated for the printer. The NO enable to generate this request even then the printer is busy. The NOS direction s/w manage the request in the print server queue. Also the client workstation can view the status of print queue at any time.

As we know that

(4) window Services → The recent clients are all multitas and support GUI server window can be opened at a single time & client O/S enable opr^n like activate, view, move, site or height of particular windows.

All the appl^n programs are also written with no sensitivity to the windowing. The NOS s/w provides the creation and mgt of pop up windows. That display alerts generated from remote server.

(5) Remote Booth Services → x-terminals used in secure location are ex of the work station on which appl^n work without any local disk. It is the responsibilities of client workstation to provide s/w burn into EEROM (Electronic

Programming Read only memory) to start the initial page prog. IPM. This only word BIOS.

(6) **Other Remote Services** → other services are backup services. which can be remotely informed from client workstation. All these remote services such as download data from host or checking a list of stock price. might also be invoked locally to run remotely by the ~~Aros~~ NOS s/w. Mobile computing also a special service.

(7) **utility services** → utility appl^n running on client workstation can be copied, move, edit etc provided by o/s.

(8) **~~manage~~ ᵐˢᵍ services** → The RPC mechanism supported by RPC allow msgs to be exchange b/w client & server. These methods can be buffered & scheduled also.

(9) **N/w services** → The N/w services are handled by the API. All these services provide support for comm^n protocols. Such as NET BIOS, IPX, APPC etc.

(10) **Appl^n services** → an addition to remote execution services that the NOS provides custom appl^n will use their own API embedded in an RPC to invoker specialized services from a remote server.

(11) **Database services** → Database request are made by Std. SQL commands. It has now become an open std language. which operates on several heterogeneous environment. All the database appl^n are made by keeping in mind the multiple platform we can create several procedure which can be reused in different appl^n.

(12) N/w mgt services alerts → N/w interface card (NIC) a
used to generate alerts to
signify detected error. Support for remote line wo
-station may be greately simplify of alert are
generated by the appl".

(13) DDE → This is the most existing feature of windo
that browse allow to program to share data'
or send commands directly to each other. It is a
direct conversation b/w two appl" programs. In th
mechanism one appl" is provided some form of
data (either a Text/ Traffic) to another appl".
The appl" that is source of data is called server
and the receiving one is called client.
& DDE links are always initiated in client appl".
DDE client initiate the link s by broadcasting a
msg then the server respond to it and windows
O/s opens a link b/w two appl"s.

(14) object Linking and Embedding → on info" technology
a compound documen
is an organised collection of user. Interface that
form a single integrated environment.
A compound document includes a data structu
that contain different data type such as text,
audio file, video file. It is a distributed
object system and protocol developed by MS.
while DDE was limited to transfering limited
amount of data b/w 2 running appl"s. OLE w
capable of maintaining active link b/w two
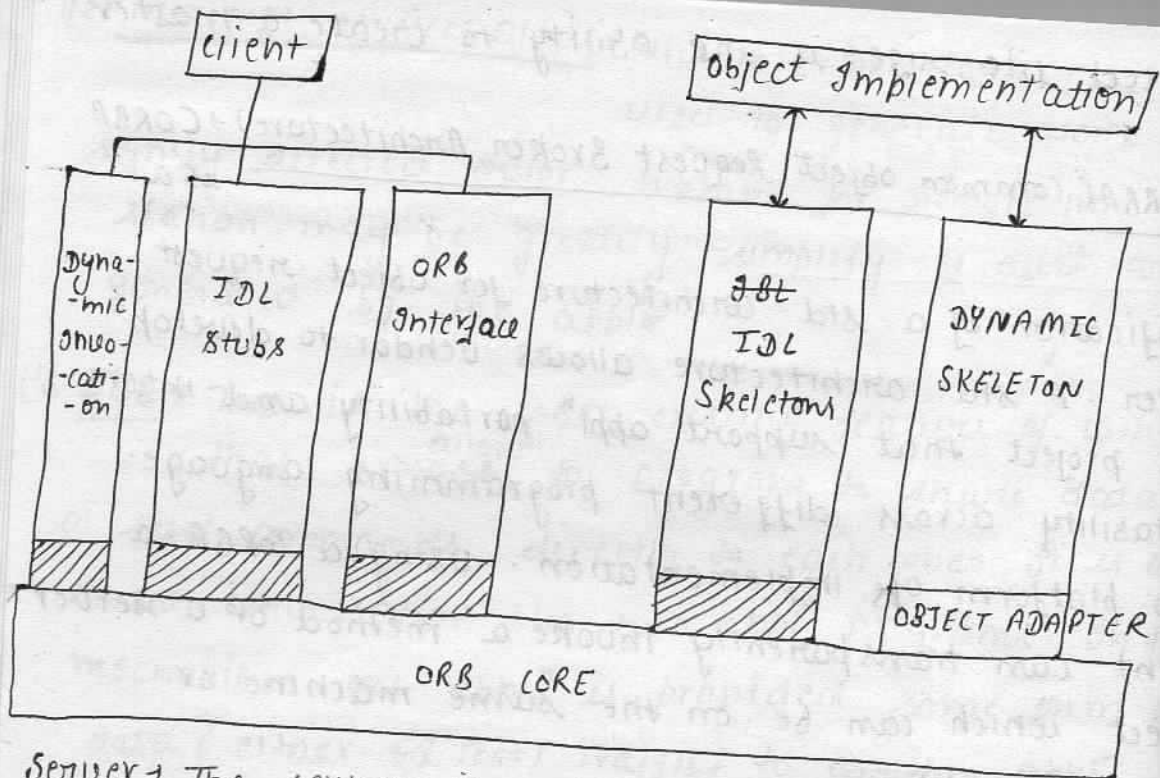document. main benefit of using OLE next to

reduced file size' is the ability to create a master file.

(15) CORBA (Common Object Request Broker Architecture) → CORBA is a specification of a std. architecture for object request broker. A std. architecture allows vendor to develop ORB project that support appl^n portability and inter-portability across different programming language. H/w platform o/s implementation. Using a CORBA a client can transparently invoke a method or a server object which can be on the same machine or across a N/w.
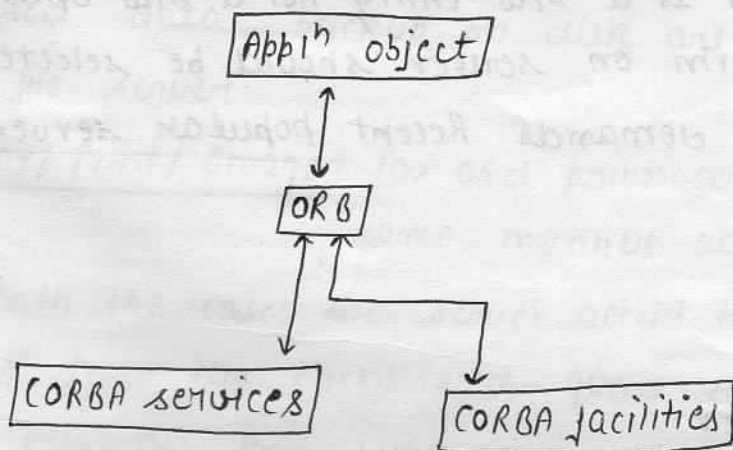
CORBA are middleware mechanism are all ORB, CORBA can be said as generalization or RPC but with the some & refinment. figure show relation b/w CORBA and object mgt architecture. The OMA is a specification that defines a broad range of services for building distributed appl^n.

Diagram labels: client | object Implementation | Dynamic Invocation | IDL Stubs | ORB Interface | IDL Skeletons | DYNAMIC SKELETON | OBJECT ADAPTER | ORB CORE

Server→ The server is a s/w entity not a h/w entity. H/w platform on server should be selected based on appl^n demands Recent popular server & o/s includes.

(1) Banyan VINES

(2) LAN manager

(3) IBM LAN server

(4) A/w Netware

(5) window XP

(6) window 2000 ex

Server is responsible to serve the client request. It provides several services such as file, print, imag, fax, security etc. There are database servers which do maintenance of the database. Allocate space for table print servers provide support to receive client documents.

Comm^n server provide support for wide ar N/w. Appl^n server provide business functionality to support op^rn of client work station.

<u>Server functionality</u> → Here we discuss some services provided by server.

(1) <u>Processing the request</u> → Basically all the request are issued by the client to the N/w O/s than then further the request are formatted and accepted by the server.

(2) <u>file services</u> → file servers provides the initial space for storage. It handle access to the virtual directory and file located on the client work station the file server servive provide the support at the remote server. It maintain the shared data, backup on disk are also managed by file server.

(3) <u>fax/ Print/ Image</u> → fax and print services work in a same manner at the server side in both the cases the server accept the fax and print request from the client and queue them based on the priority. And further are transmitted at the appropriate client. Image server is helpful in capturing and then distributing images to the appropriate client.

(4) <u>Database services</u> → Database server play an important role in the maintenance of the data base record, deadlock handling concurrency control technique are main facilities provided by database server also the maintenance of authorized login is done by database server. Many popular database server such as - Dbase, oracle, foxpro, mysql, sybase or all recent use database at the server side.

Available platforms →

* Novell N/w
* LAN manager
* IBM LAN server
* Banyan vines
* DOS
* OS/2
* OS/400
* Windows Vista
* Windows 2000
* Windows XP
* OS/9
* MVS (Multiple virtual storage)
* UNIX

NT (New Technology)