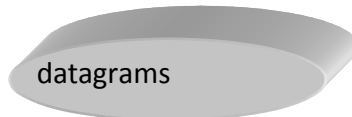


TRABAJO PRÁCTICO Nº 3

TUPAR, TUDAI E INGENIERÍA DE SISTEMAS

➤ **Actividades de pre-lectura**

1. Haga un barrido de lectura ligero para captar título, datos bibliográficos, letras cursivas, uso de comillas o negritas. ¿Qué información obtuvo? Escríbala.
2. Lea la primera oración de cada párrafo solamente. Formule una hipótesis sobre el contenido del artículo. Redáctela.
3. Teniendo en cuenta su conocimiento del tema, amplíe el campo semántico de esta palabra agregando todas las palabras relacionadas.



➤ **Gramática**

4. El sufijo "-less" da la idea de..... Ejemplo:

El prefijo "under" significa..... Ejemplo:

Con el sufijo "-ment" una raíz se transforma en.....Ejemplo:

5. ¿Cuál es el núcleo en las siguientes frases? Proponga un equivalente en español.

- individually self- contained units
- connection- oriented service
- connectionless data transmission

A partir de los ejemplos anteriores infiera una regla gramatical.

7. ¿A qué hacen referencia los términos que en el artículo aparecen encerrados por un círculo? Clasifíquelos en ejemplos de anáfora y catáfora.

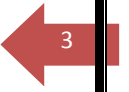
➤ **Verificando la comprensión**

8. Explique brevemente lo que dice el autor al final de la primera página (en cursiva) acerca de los nombres de estos modelos de comunicación.

9. El siguiente cuadro resume la información del artículo. Relea el mismo y coloque un tilde (✓) donde la respuesta sea correcta.

Modelos de comunicación	Connection	Connectionless
También llamado "connection model"		
También llamado "datagram"		
Contexto para la información compartido por las partes		

Información en unidades individuales		
Se utiliza exclusivamente para definir protocolo en todas las capas		
Se utiliza para definir servicios y protocolos en las capa de Internet.		
Tres fases: establecer conexión; transferencia de información; fin de la conexión		
Una fase: unidad de información autoabastecida		



Connections and Connectionless

One of the most basic concepts of network architecture is the distinction between the *connection* and *connectionless* models of communication. The connection model is based on the establishment and maintenance of “state information” that is held in common by the communicating parties

and the underlying service provider; the state information establishes a context within which the parties interact with the service provider and communicate with each other. The connectionless model is based on individually self-contained units of communication (often called “datagrams”), which are exchanged independently without reference to any shared state (that is, there is no “connection” between the communicating parties). In the connection model, each individual unit of communi-

cation is interpreted by reference to the shared state of the connection (which captures information such as the identity of the communicating parties, the current status of flow-control variables, the way in which data have been encoded for transmission, and the sequence numbers of data units that have not yet been mutually acknowledged). In the connectionless model, each unit of communication carries within it all the information that each party needs to interpret it, since there is no shared state to refer to.



The OSI reference model terms connection-oriented and connectionless, describing virtual circuit and datagram modes of operation, were coined by Lyman Chapin and John Gurzick during the production of the first draft of the connectionless addendum to the OSI reference model on the roof of The Pointe resort in Phoenix, Arizona, in 1981. Sometime between 1983 and 1987, the connection-oriented "X.25 crowd," who were not about to hyphenate the noun connection (to create an adjective) without attach-

ing a similarly demeaning shackle to the rival connectionless, succeeded in changing the "official" term to connectionless-mode—an injury to English grammar that at least had the dubious virtue of leaving everyone equally dissatisfied. A few reminders of the original terms persist; the standard acronym for the "connection-mode network service," for example, is CONS, not CMNS, and the title of ISO/IEC 8073 is "Connection-oriented Transport Protocol."

A common mistake is to assume that either the connection model or the connectionless model must be used uniformly throughout a network architecture; that is, if one layer is defined using the connection model, then all the other layers must also use the connection model. In fact, the two models are complementary: it is appropriate to use the connection model to define a protocol in one layer (e.g., the transport layer) and the connectionless model to define a protocol in a different layer (e.g., the network layer), the combination of which can be used to provide a connection-oriented (transport) service to a higher layer.

The TCP/IP and OSI architectures employ **both models** in all layers, with one important exception: in TCP/IP, only the connectionless model is used to define the services and protocols of the internet layer. The Internet architecture refers to the two models as simply “connections” and “datagrams.” The OSI reference model, with its penchant for “precise” terminology, uses the terms *connection-mode* and *connection-oriented* for the connection model and the term *connectionless-mode* for the connectionless model.



In the earliest work on OSI, communication between peer entities was modeled exclusively in terms of connection-based interactions, which were de rigueur among the telephony-oriented people⁸ who dominated early OSI standardization activity. Consequently, the assumption that a connection is a basic prerequisite for communication in OSI permeated early drafts of the reference model, and came to be perceived as a dominant and prerequisite feature of the OSI architecture. This widely held perception caused many people who were familiar with the use of the connectionless model for internetworking in TCP/IP and other architectures to dismiss OSI as applicable only to X.25 and other connection-oriented networks. The pejorative association of OSI with X.25 has been hard to shake, despite the fact that the connectionless internetworking model has been fully incorporated into the OSI architecture, and a complete set of protocols and services to support it has been defined and standardized.

Communication using a connection proceeds through three distinct phases:

1. *Connection establishment*, during which the parties that intend to communicate negotiate and agree on the terms of their interaction and perform any necessary “setup” functions (such as the allocation of buffers, the establishment of underlying communication links, and the initialization of state variables).

2. *Data transfer*, during which information is exchanged according to the rules established during connection establishment.
3. *Connection release*, during which the context established for communication is dismantled (buffers freed, underlying links torn down, state data structures deallocated).

Connection-mode operation is based on the familiar model of a telephone conversation:

1. Dial the phone.
2. Talk to the party at the other end.
3. Hang up.

In contrast, connectionless communication has just one phase of operation: transmission of a single, self-contained unit of data in a package that contains all relevant information. **It** is based on the equally familiar model of the basic postal mail service: put all necessary information (address, return address, postage, "airmail" label, etc.) on the envelope and drop it in the mailbox slot.

Connectionless data transmission has been described disparingly as "send and pray"; but is more accurately described as "best-effort delivery." A service provider, be it a datagram network or a postal authority, wouldn't last long if its users truly believed that packet or mail forwarding and delivery could only be accomplished through divine intervention.

Fuente:

Piscitello, D. y Chapin, A. (1993) *Open Systems Networking. TCP/IP AND OSI* Addison-Wesley Publishing Company pp. 51-54.

➤ **ACTIVIDADES DE ESCRITURA**



UTILICE el comienzo sugerido y **REDACTE** un texto propio incorporando las ideas principales del texto en su producción. **UTILICE** algunas palabras de la caja de ser necesario.

mientras que-	El primero-	el segundo-
Entendemos por-	se caracteriza-	Por el contrario
Además-	como por ejemplo-	

En este apartado, los autores Piscitello y Chapin (1993) definen y describen los términos `connection` y `conectionless` - términos basales en arquitectura del software.



**PAUTAS DE ESCRITURA EN
LM EN CONTEXTOS
ACADÈMICOS**

- Al hacer referencia a un término central de una disciplina, recuerde que se pueden utilizar comillas para introducir o nombrar dichos conceptos.
- Cuando elabore un texto propio que refiera a un texto fuente, asegúrese de incluir las ideas principales del texto. Recuerde que si el texto refiere a dos modelos de comunicación distintos, por ejemplo, deberá caracterizar cada uno y utilizar conectores que establezcan diferencias entre uno y otro; y en consecuencia, incorporar en la redacción palabras como `Por el contrario`, `sin embargo`, etc. Estos recursos permitirán que su producción escrita fluya y se comprenda.