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T	Page

DISTRIBUTED MULTIMEDIA & DATABASE SYSTEM

	Distributed Datalan Management System (DDBMS) -
<u>.</u>	A distributed DDBMS is a centralized application that manages a
	distributed databone as if it were all stoud on the same computer. The DDBMS
gar e A T	synchronizes all the data periodically, and in cases where multiple uses
	must access the same data, ensures that updates and deletis performed on
	the data at one woother will be automatically reflected in the data stored
*****	churpine.
	Advantages of DOBMS
į	Dirachrenton on of DDBMS-
	Dirachantage of DDBMS-
	Grate potentiality if higs, high roftware development cont and increased
	processing overheads
	The same of the sa
2	Types of distributed database -
	DISTRIBUTED DATABASE
	HOMOGENEOUS HETEROGENEOUS
	AUTONOMOUS SYSTEMS GATEWAYS
	PARTIAL MULTIDATABASE - FULL DBMS FUNCTIONALITY
	UN-FEDERATED FEDERATED
	LOOSE INTERRATION TIGHT INTEGRATION
	A CONTRACTOR OF THE PROPERTY O
	Hamman and - The come DRMC wed in used at each mode
	Homogeneous - The same DBMS weed is used at each node
·	- Autonomous - Each OBMS works independently, framing memoge boch and
	forth to show data wholes.
	-Non-Autonomous - A central, or master, DBMS coordinates clatatore access
A MATERIAL STATES	and update accion the nodis

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	Pat Till Ital M DRAIC's proceed of each mode
	Heterogeneous - Potentially different DBMs one used at each node
	- Gateways - simple paths one created to other datavores, without
	the benefits of one trained datations
	butom - support more or all the functionality of one topical actavore
	Full DBMS functionality - heffert all of the functionality of distributed
	andre.
	Partial - Hultidatalon - hupports some features of a distributed detalone
	- Unfederated - Require all access to gotherigh a central coodinating module
	- Federated - Supports boal databases for unique data requests
	- hoose Integration - Many schemas exists, for each local database,
	and each brad DBMS must communicate with all local schemes
	Ties to Tate a ties - Are added a should have delines all the
	Light Integration - One global shes schema exists that defines all the
	date across all local databases.
	Almereca a
	DISTRIBUTED MULTIMEDIA -
0	Characteristics of Multimedia Data -
	(1) Continues =
	- Refers to the use's view of the data
	- Video: a image anay is replaced 25 times per second
	- Audio: the of amplitude value is asplaced 8000 times per second.
	(2) Time-land-
	- The time at which the values one played or recorded after the validity
	of the data
	- Home the times should be meserved
	- Hence, the timing should be preserved.
	D the of general management
_(2)	Quality of service managements-
1. 1	The management and allocation of resources to provide such
	quarantees is referred to as quality of some management.
<u> </u>	If there is a nystem component aexpounded for the attraction and
	scheduling of those revources. That component is refer as the quality of
	II n u
	suince (QOS) manager. mycompanion

	The QOS managers two main	Yu.	btasks are quality of seurce negotiation
	and admission control.		T d l
-			
	Admission Control	Str. Gr. Gr. Str.	dos negotiation
		on	components specify their
	1 14 B		nents to Qos manager
-			Flow Specification
	Qos man	age	r cvaluates new requirements
-	1"	V	available resources. Sufficient?
	YES		No
	Reserve the requested resource		Negotiate reduced resource provision with
	Resource Contract	1 1	application. Agreement?
	Allow application to proceed		YES NO
			Do not allow application to proceed
	Application runs with resources	1	
	as per-resource contract		Application notifies Qos manager of
-		9	increased resource requirements
	QOS MANAL	1ER	5 TASK
>	Quality of service regoliation.	_	
			ven an application and its underlying system,
			QOS requirement to the QOS manager. This
	à done ly the transmission of a		
?	.9		rich a multipredia theam flows,
			or an individual data element to move
	through a stream from the		
-	Titter is the first deri		
			unmet resource requirements, or a rate
د	of data loss that can be acc		
	> Revouse requirement		
			-
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	Showed thouse of respirate the state from
	(1) To describe the Characteristics of a multimedia stream in a harticular
	(1) To describe the Characteristics of a multimedia stream in a fracticular
	eninonment. Eg Video conference (Bandindth → 1.5 Mbps, delay - 150me,
	(2) To describe the capabilities of resources to transport a stream. Eg-a network may provide -> Brandwidth: 64Kbps, delay: 10ms, loss tate: 1/1000.
	d
<u> </u>	Traffic Staping -
	It is a term used to describe the use of outfut briffing to mooth
	the flow of data elements. Two deginetims -
	(1) heaky hicket algorithm
	- Completely climinale hust
	- A stream will never flow with a rate higher than R
	- 5 b the right
	- B wound the time for which an element will remain in huffer?
	(2) Token hicket about hm - Token
1	Gonember
×* t	Allow larger brush
A* 1	Allow larger brush
3.1	- Token is generated at fined school R - the tokens one collected ma bucket of rige B
A* 1	- Token is generated at fined school R - the tokens are collected ma hubet of rige B = - Deta of rige's can be sent only if at least stokens are in the hubet
A** \	- Token is generated at fined school R - the tokens one collected ma bucket of rige B
A** \	- Token is generated at fined school R - Tokens is an collected ma hulet of rige B - Data of rige S can be sent only if at heart stokens one in the hulet - Enne that over any interval t, the amount of data is not larger than REEB
	- Token is generated at fined scient R - The tokens are collected on a bucket of right B - Data of rights can be sent only if at least stokens are in the bucket - Ennue that overany internal to the amount of data is not larger than REB Flow freelyications - A collection of Ros parameters
	- Allow larger trust - Token is generated at fined scient R - the tokens are collected ma herest of rige B - Deta of riges can be sent only if at least stokens are in the heret - Enner that overany interval t, the amount of data is not larger than REEB Flow free fictions - A collection of Dos parameters > RFC 1363 -
,	- Token is generated at fined acte of R - the tokens are collected ma heart of rije B - Data of rije S can be sent only if at heart stokens are in the heart - Ennu that over any interest to the amount of data is not larger than REEB Flow freeligations - A collection of DoS parameters > RFC 1363 - (Il Brandwidth - i Manimum transmission unit and nanimum transmission rate.
	- Token is generated at fined acts of R - the tokens are collected on a heart of rige B - Data of rige S can be sent only if at least stokens are in the heart - Ennue that over any interest to the amount of data is not larger than REEB Flow freefications - A collection of Das parameters > RFC 1363 - (i) Bandindtt i Manimum transmission unit and manimum transmission rate. Token bucket sings knote determines the brustiness of the stream.
	- Token is generated at fined sate of K - the tokens are collected ma hurest of right B - Data of rights can be sent only if at heart stakens are in the hicket - Emme that overany interval to the amount of data is not larger than REEB. Flow freefrications - A collection of das parameters > RFC 1363 - (4) Bandwidth - Manimum transmission unit and manimum transmission rate. Token backet right knote determine the brustimes of the stream. (2) Delay - Minimum delay that can application can notice and the
	- Allow large trust - Token is generated at fined sche of R - the tokens are collected ma heart of rige B - Data of rige S can be sent only if at least stokens are in the heart - Ennu that over any interval to the amount of data is not larger than Rtt B Flow freeligibles - A collection of QaS parameters - RFC 1363 - (II Bandindth - Manimum transmission unit and naumum transmission rate. Token bucket sige knote determine the bustiness of the stream. (2) Delay - Minimum delay that can application can notice and the manimum jetter it can occupt
	- Token is generated at fined acts of R - the tokens are collected ma heart of rige B - Data of rights can be sent only if at heart stokens are in the heart - Ennue that overany interval to the amount of data is not larger than REEB Elow Acceptations - A collection of ROS parameters - RFC 1363 - (1) Bandindth Manimum transmission unit and manimum transmission rate. Token bucket sign knote determine the brustiness of the stream. (2) Delay - Minimum delay that can application can notice and the manimum jetter it can accept. (3) how rate - Total number accept.
	- Allow large trust - Token is generated at fined sche of R - the tokens are collected ma heart of rige B - Data of rige S can be sent only if at least stokens are in the heart - Ennu that over any interval to the amount of data is not larger than Rtt B Flow freeligibles - A collection of QaS parameters - RFC 1363 - (II Bandindth - Manimum transmission unit and naumum transmission rate. Token bucket sige knote determine the bustiness of the stream. (2) Delay - Minimum delay that can application can notice and the manimum jetter it can occupt
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The RFC 1363 flow specification -					
	Protocol Version				
	Manimum fransmission unit				
BANOWIDIN:	Token bucket rate				
DMOW 1DUT	Token bucket size				
	Maximum transmission vake				
Bright.	Minimum delay noticed				
DELAY:	Maximum delay variablen				
	Loss sensibliby	,			
LOSS:	Burst Loss sensitivity				
	Loss interval				
	Quality of service guarantee				

Adminion Control—

9t regulates access to resources to avoid resource overhead and to protect resources from requests that they cannot fulfil.

Bandwidth reservation - Resource some furtion of arounce bandwidth endurinely Statistical multiplening - Revers minimum or average bandwidth

- Handles burst that cause some service shop level organismally - Ho Hypothesis - a large number of streams that aggregate bandwidth required elements remains nearly constant regardless of the vandwidth of individual streams.

CASE STUDY OF DISTRIBUTED SYSTEM -

1 Amocka

3 Mach

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