Datagram

Service

Datagram (javadoc/org/arl/unet/Services.html#DATAGRAM) – Datagram service

Agents offering the *Datagram* service support messages to transmit and receive datagrams. Such agents may offer some optional capabilities:

Capability	Description
FRAGMENTATION (javadoc/org/arl/unet/DatagramCapability.html#FRAGMENTATION)	Capable of fragmentation/reassembly of datagrams
RELIABILITY (javadoc/org/arl/unet/DatagramCapability.html#RELIABILITY)	Capable of link-level reliability
PROGRESS (javadoc/org/arl/unet/DatagramCapability.html#PROGRESS)	Capable of reporting progress via DatagramProgressNtf (javadoc/org/arl/unet/DatagramProgressNtf.html) messages
CANCELLATION (javadoc/org/arl/unet/DatagramCapability.html#CANCELLATION)	Capable of cancelling queued datagram transmission
PRIORITY (javadoc/org/arl/unet/DatagramCapability.html#PRIORITY)	Capable of honoring datagram priority
TTL (javadoc/org/arl/unet/DatagramCapability.html#TTL)	Capable of honoring datagram time-to-live settings

Implementations

A large number of agents provide the *Datagram* service. Specifically, any agent providing Physical (svc-10-phy.html#svcphy), Link (svc-20-link.html#svclink), Routing (svc-30-routing.html#svcrouting) or Transport (svc-35-transport.html#svctransport) services support this service.

Requests and Responses

Request	Possible Responses	Description
DatagramReq (javadoc/org/arl/unet/DatagramReq.html)	AGREE, REFUSE, FAILURE	Transmit a datagram
DatagramCancelReq (javadoc/org/arl/unet/DatagramCancelReq.html)	AGREE, REFUSE, NOT_UNDERSTOOD	Cancel a datagram transmission
ParameterReq (javadoc/org/arl/unet/ParameterReq.html)	ParameterRsp (javadoc/org/arl/unet/ParameterRsp.html)	Get/set/list parameters

Request	Possible Responses	Description
CapabilityReq (javadoc/org/arl/unet/CapabilityReq.html)	CONFIRM, DISCONFIRM, CapabilityListRsp (javadoc/org/arl/unet/CapabilityListRsp.html)	Check/list capabilities

> **Tip**
>
> If reliability is supported, a reliable datagram is specified by setting the `reliability` property of the DatagramReq (javadoc/org/arl/unet/DatagramReq.html). If an agent does not support reliability, it would respond with a `REFUSE` performative to such a request.

> **Tip**
>
> A NOT_UNDERSTOOD response for the DatagramCancelReq (javadoc/org/arl/unet/DatagramCancelReq.html) request indicates that the agent does not support the CANCELLATION (javadoc/org/arl/unet/DatagramCapability.html#CANCELLATION) capability.

Notifications

Notification	Topic	Description
DatagramNtf (javadoc/org/arl/unet/DatagramNtf.html)	default	Notification of a received datagram
DatagramDeliveryNtf (javadoc/org/arl/unet/DatagramDeliveryNtf.html)	requester	Notification of successful delivery of reliable datagram
DatagramFailureNtf (javadoc/org/arl/unet/DatagramFailureNtf.html)	requester	Notification of unsuccessful delivery of reliable datagram
DatagramProgressNtf (javadoc/org/arl/unet/DatagramProgressNtf.html)	requester/default	Periodic notifications of datagram transfer progress
ParamChangeNtf (javadoc/org/arl/unet/ParamChangeNtf.html)	PARAMCHANGE (javadoc/org/arl/unet/Topics.html#PARAMCHANGE)	Notification about the modified parameter

> **Tip**
>
> The DatagramProgressNtf (javadoc/org/arl/unet/DatagramProgressNtf.html) message is sent by agents supporting PROGRESS (javadoc/org/arl/unet/DatagramCapability.html#PROGRESS) capability on a periodic basis. On the transmission end, this message is sent to the originator of the DatagramReq

(javadoc/org/arl/unet/DatagramReq.html) for which the progress is reported. On the reception end, this message is sent to the default notification topic of the agent.

Parameters

Parameter	r/w	Description
MTU (javadoc/org/arl/unet/DatagramParam.html#MTU)	rw	Maximum datagram size in bytes

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