

Clarification Request

References: 135.1-2019 - 10.2.2.5.1 - Execute Router-Available-To-Network: Restoring Specific DNETs

Date of BTL-WG Response: 03-August-2023

Background:

10.2 Router Functionality Tests

This clause defines the tests necessary to demonstrate BACnet router functionality. The tests assume that the router has two ports. Port 1 is directly connected to Network 1 and Port 2 is directly connected to Network 2. Routers with more than two ports shall be tested using these procedures for each possible combination of two ports. The logical configuration of the internetwork used for these tests is shown in Figure 10-1. The test descriptions in this clause assume that the TD can connect simultaneously to Networks 1 and 2 and mimic all of the other devices. The connection to Network 1 is referred to as "Port A" and the connection to Network 2 as "Port B." An acceptable alternative is to construct an internetwork with real devices as indicated. Logical networks 3 and 5 shall use different LAN technologies, both of which are different from networks 1 and 2 in order to ensure that the router can support remote networks with different size MAC addresses.

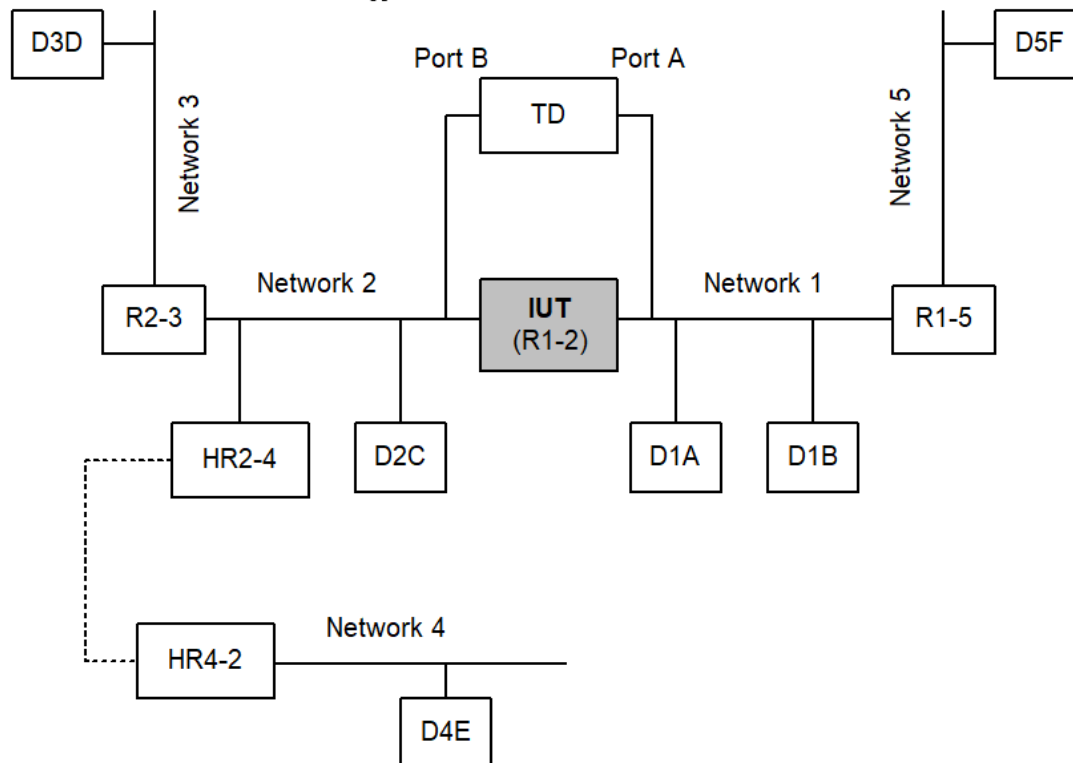


Figure 10-1. Logical internetwork configuration for router functionality tests

10.2.2.5.1 Restoring Specific DNETs

Purpose: To verify that the IUT updates its network availability information when a Router-Available-To-Network message conveying specific DNETs is received.

Test Steps:

1. TRANSMIT PORT B,
DESTINATION = LOCAL BROADCAST,
SOURCE = R2-3,
Router-Busy-To-Network
2. RECEIVE PORT A,
DESTINATION = LOCAL BROADCAST,
SOURCE = IUT,
Router-Busy-To-Network,
Network Numbers = 3, 6 | 6, 3
3. TRANSMIT PORT B,
DESTINATION = LOCAL BROADCAST,
SOURCE = R2-3,
Router-Available-To-Network,
Network Numbers = 3
4. RECEIVE PORT A,
DESTINATION = LOCAL BROADCAST,
SOURCE = IUT,
Router-Available-To-Network,
Network Numbers = 3
5. TRANSMIT PORT A,
DESTINATION = IUT,
SOURCE = D1A,
DNET = 3,
DADR = D3D,
Hop Count = 255,
ReadProperty-Request,
'Object Identifier' = (any BACnet standard object),
'Property Identifier' = (any required property of the specified object)
6. RECEIVE PORT B,
DESTINATION = R2-3,
SOURCE = IUT,
DNET = 3,
DADR = D3D,
Hop Count = (any integer x: $0 < x < 255$),
ReadProperty-Request,
'Object Identifier' = (the object identifier used in step 5),
'Property Identifier' = (the property identifier used in step 5)
7. TRANSMIT PORT A,
DESTINATION = IUT,
SOURCE = D1A,
DNET = 6,
DADR = (any valid device address),
Hop Count = 255,
ReadProperty-Request,
'Object Identifier' = (any BACnet standard object),
'Property Identifier' = (any required property of the specified object)

8. RECEIVE PORT A,
 DESTINATION = D1A,
 SOURCE = IUT,
 Reject-Message-To-Network,
 Reject Reason = 2 (router busy),
 DNET = 6

Problem:

In test step 5, the TD sends a ReadProperty to the IUT for target network 3.
 In Step 6 the IUT routes the ReadProperty to the device D3D.

The Problem is Routers are required to add SNET and SADR, see Fig 6-12 and that the Device D3D without a source network and source address will not know who to send the response to read property back to

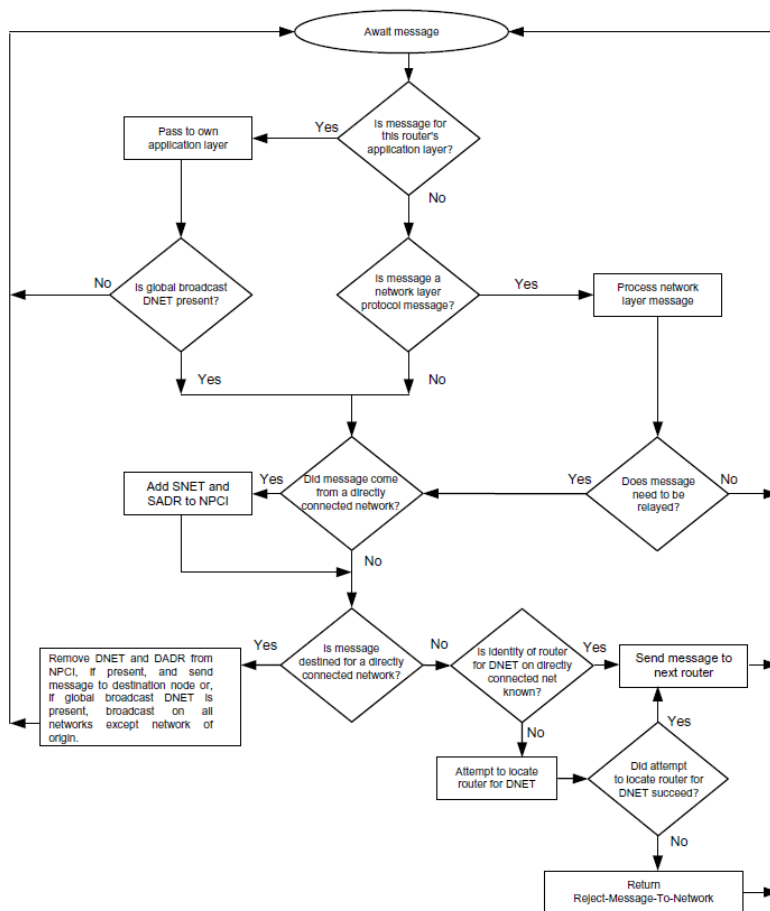


Figure 6-12. BACnet Message Routing.

Question:**Should the IUT include these parameters in step 6?**

6. RECEIVE PORT B,
DESTINATION = R2-3,
SOURCE = IUT,
SADR = D1A
SNET = 1
DNET = 3,
DADR = D3D,
Hop Count = (any integer x: $0 < x < 255$),
ReadProperty-Request,
'Object Identifier' = (the object identifier used in step 5),
'Property Identifier' = (the property identifier used in step 5)

Response:**Yes.**