MODIFY ROUTE

The MODIFY ROUTE command allows you to change values assigned to an already-define route entry. You can also use this command to change the order of existing route entries.

Syntax:
```
MODify ROUTe ID=id [,LINKid=name16] [,NUMber=0] [,IPaddr=ip4addr]
             [,GATEway=ip4addr1] [,AFTer=id] [,MTU=num] [,MSS=num]
             [,CRETran=msec] [,DRETran=msec] [,FIXRetran={Yes|No}]
             [,MINRetran=msec] [,MAXRetran=msec] [,PULse=sec]
             [,WINdow=num] [,RPAuse=msec] [,RETRY=num]
```

Arguments:

LINKid= - This is the same value that is specified in the ID= parameter of the DEFINE LINK command that will be the destination for this route table entry.

NUMber= - For links with adapters, this directs the route to the specific numbered adapter. The default is "0". This parameter is required if the NUMBER= parameter of the target DEFINE ADAPTER is not "0".

IPaddr= - A TCP/IP network address or "zero host" address. All messages destined for this address are sent on the associated link.

GATEway= - The full network address of a gateway to other networks. A match on this table entry causes the data packet to be sent to the specified gateway.

AFTer= - The value of the name parameter identifying the DEFINE ROUTE statement after which this one is to be moved. If this parameter is omitted, the route entry's position in the table is left unchanged. A special value of "TOP" can be coded to cause the route statement to be moved to the top of the list.

Placement in the table is very important, since the look-up procedure is a top-to-bottom search for first-match (except for "0.0.0.0" which is always matched last).

MTU= - The MTU value to be used with this route. This is only meaningful if it is less than the value specified by the target DEFINE LINE or DEFINE ADAPTER. Typically, this parameter only controls the size of outbound datagrams.

MSS= - The Maximum Segment Size to be used with this route. MSS is conveyed to the remote host during OPEN processing and control the size of datagrams being constructed by the remote host. MSS specification will always be reduced to MTU-40.

CRETran= - This specifies the number of milliseconds that TCP/IP will wait for an ACK in response to a connection request (SYN). Once this interval has elapsed, retransmission mode will be entered.

DRETran= - This specifies the number of milliseconds that TCP/IP will wait for an ACK in response to a datagram transmission on an established connection. Once this interval has elapsed, retransmission mode will be entered.

FIXRetran= -
Yes - The values specified for DRETRAN= and RPAUSE= will remain constant for the duration of the connection.
No - The values for DRETRAN= and RPAUSE= will start out as specified, but will be dynamically adjusted as network response is analyzed.

MINRetran= - If FIXRETRAN=NO is specified, this is the minimum time (in milliseconds) that can be dynamically assigned to DRETRAN.

MAXRetran=	- If FIXRETRAN=NO is specified, this is the maximum time (in milliseconds) that can be dynamically assigned to DRETRAN.
RPAuse=	- Once retransmit mode has been entered, this is the time (in milliseconds) that will elapse between retransmission attempts.
RETRY=	- This parameter specifies the number of time that an unacknowledged datagram will be retransmitted before the connection is considered to be dead.
PULse=	- This specifies how long (in seconds) that a connection can be idle (no traffic of any kind) before a probe is made to determine that the remote host is still active.
WINdow=	- This value indicates the desired size of the Receive Window.

Example:

```
IPN237I query routes
IPN253I << TCP/IP Routes >>
IPN448I  ID: DEFAULT            Link ID: LINK3172, 0
IPN449I     IP Address: 0.0.0.0 Mask: 255.255.255.0
IPN450I     Net: -- Subnet: -- Host: --
IPN448I  ID: *Internal          Link ID: *Internal
IPN449I     IP Address: 127.0.0.0 Mask: 255.0.0.0
IPN450I     Net: 127.0.0.0 Subnet: -- Host: --
IPN448I  ID: *Internal001       Link ID: *Internal
IPN449I     IP Address: 192.168.1.161 Mask: 255.255.255.0
IPN450I     Net: 192.168.1.0 Subnet: -- Host: 0.0.0.161
IPN448I  ID: LOCAL              Link ID: LINK3172, 0
IPN449I     IP Address: 192.168.1.0 Mask: 255.255.255.0
IPN450I     Net: 192.168.1.0 Subnet: -- Host: --

IPN237I modify route,id=default,after=local

IPN237I query routes
IPN253I << TCP/IP Routes >>
IPN448I  ID: *Internal          Link ID: *Internal
IPN449I     IP Address: 127.0.0.0 Mask: 255.0.0.0
IPN450I     Net: 127.0.0.0 Subnet: -- Host: --
IPN448I  ID: *Internal001       Link ID: *Internal
IPN449I     IP Address: 192.168.1.161 Mask: 255.255.255.0
IPN450I     Net: 192.168.1.0 Subnet: -- Host: 0.0.0.161
IPN448I  ID: LOCAL              Link ID: LINK3172, 0
IPN449I     IP Address: 192.168.1.0 Mask: 255.255.255.0
IPN450I     Net: 192.168.1.0 Subnet: -- Host: --
IPN448I  ID: DEFAULT            Link ID: LINK3172, 0
IPN449I     IP Address: 0.0.0.0 Mask: 255.255.255.0
IPN450I     Net: -- Subnet: -- Host: --
```

Notes:
- *TCP/IP for VSE* searches the route statements in the same order that they are entered (except for an entry with an all zero IP address). Using the AFTER= parameter ensure proper sequencing of the route table.
- To examine the order of search, use the QUERY ROUTES command. This displays the route table in search order (except for entries with an all zero IP address).
- A route statement with an all zero IP address is only matched after all other entries have been tested (in order).
- Once a route statement is matched by IP address, the designated link is checked for availability. If the link cannot be used the search continues with the next route entry.
- When a DELETE LINK command is issued or if a link is otherwise marked as inactive, all DEFINE ROUTE statements referring to that link are automatically deleted. If you subsequently redefine the link using the DEFINE LINK command, you must also reestablish the routes using the DEFINE ROUTE command.

Related Commands:

DEFINE ADAPTER	-	Creates an adapter definition within the scope of a DEFINE LINK.
DEFINE ALTIP	-	Causes the stack to monitor and respond to ARP requests for additional home addresses.
DEFINE MASK	-	Create a subnet mask for a particular network.
DEFINE ROUTE	-	Add an entry to the TCP/IP routing table.
DELETE ALTIP	-	Remove an alternate home address.
DELETE LINK	-	Remove a link between TCP/IP and a network or to a directly-connected stack.
DELETE ROUTE	-	Remove an entry from the network routing table.
DISCOVER	-	Determine the "best" MTU size to a remote host.
GATEWAY	-	Control forwarding of datagrams not intended for the VSE stack.
QUERY ARPS	-	Displays the current content of the ARP table.
QUERY LINKS	-	Displays the status of network links.
QUERY MASKS	-	Shows all defined sub network masks, by network number.
QUERY ROUTES	-	Displays the content of the network routing table or the route taken to reach a specific address.
QUERY SET	-	Displays the current values of modifiable parameters.
SET IPADDR	-	Establishes the default home address for the stack.
SET MASK	-	Establishes a default subnet mask.
SET MAX_SEGMENT	-	Controls the default setting for the inbound Maximum Segment Size.
SET PULSE_TIME	-	Controls the default setting for the interval between probes of inactive connections.
SET RETRANSMIT	-	Controls the default setting for the interval that controls initiation of retransmit mode.
SET WINDOW	-	Controls the default setting of the TCP inbound window.
TRACERT	-	Displays each "hop" in a route along with the time required to reach it.