GALAXY-20 has been changed to include the following new features:

o  Alias Printers Support

o  Adding the /CLUSTER-NODE switch to additional OPR commands

o  The selective routing and receiving of remote OPR messages

These additions are described below.


1.0  ALIAS PRINTERS SUPPORT

It is now possible to refer to printers by aliases rather than by their physical specifications.  The following commands have been added to support this feature:

o DEFINE ALIAS alias {alias | physical printer specification | null}
  {/CLUSTER-NODE:cluster-node-name or "*"}

o SHOW ALIAS {alias | CLUSTER | DQS | LAT | LOCAL | physical printer
  specification | null } {/CLUSTER-NODE: cluster-node-name or "*"}


1.1  The DEFINE ALIAS Command

The DEFINE ALIAS command allows an operator to uniquely DEFINE, reDEFINE or unDEFINE alias names to local, DQS, LAT, and CLUSTER printers.  Once an alias is defined for a printer, that printer may be specified solely by its alias.  An example of the DEFINE ALIAS command is:

OPR>DEFINE ALIAS FOO ? one of the following predefined alias names:
   BAR     BIN     FOO
   or unit number
   or one of the following:
  CLUSTER DQS      LAT
   or /CLUSTER-NODE:
   or confirm with carriage return


1.1.1  Defining An Alias To A Printer Specification

The following command maps the alias FOO to the CLUSTER printer specification of CLUSTER 1 NODE GIDNEY:

OPR>DEFINE ALIAS FOO CLUSTER 1 NODE GIDNEY

1.1.2  Redefining An Alias

The following reDEFINEs the alias FOO to alias BAR:

OPR>DEFINE ALIAS BAR FOO

This command changes the alias name from FOO to BAR.  (I.e.,  BAR is now mapped to the CLUSTER Printer 1 on node GIDNEY.) Note:  If BAR is a previously defined alias, then its previous definition is removed since there can only be one alias name associated with a printer specification.

To Undefine the alias BAR:

OPR>DEFINE ALIAS BAR

This command will unmap FOO's mapping to the CLUSTER Printer 1 for node GIDNEY.


                         NOTE

   o  It is possible to define an alias for a printer that
      has not yet been STARTed or SET.

   o  Alias names are only known in GALAXY context, i.e.,
      they are not known at the EXEC level.


1.1.3  Recommendations For System Manager

It is recommended that all alias to physical printer specification mappings be defined at GALAXY startup by including the appropriate DEFINE ALIAS commands in 7-SYSTEM.CMD

To avoid confusion, it is also recommended that all nodes in a cluster maintain identical alias to printer mappings.


1.2  The SHOW ALIAS Command

The SHOW ALIAS command will display the alias to printer specification mappings which have been previously defined.  The syntax of the command will include the following:

OPR>SHOW ALIAS

This shows all the current alias name to physical specification mappings.

     OPR>SHOW ALIAS {CLUSTER | DQS | LAT | LOCAL}

     This shows all the  current  alias  name  to  physical  name
mappings for the specified printer type.

     OPR>SHOW ALIAS FOO

     This shows the printer specification which has  been  mapped
to FOO.

     The SHOW ALIAS display will have the following format:

OPR>SHOW ALIAS
14:34:30          -- Alias Printer Mappings --

Local printers
   Alias  Unit
   ------ ----
     FOO     0
     BAR     2

DQS printers
  Alias               DQS queue name            Node
  ------      ------------------------------    ------
XEROX1                          TOPS$LN03     GALLO
XEROX2                          LVD$LN03        MED
XEROX3                          SI$BENSON    MRSVAX

LAT PORT printers
  Alias            Port name      Server
  ------      ----------------    ------
  PLAT1           24004_LN03A       LAT1
  PLAT2           24004_LN03B      LAT70
  PLAT3                  LN03      LAT71

LAT SERVER printers
Alias             Service name      Server
-----            ------------      ------
  SLAT               LN03_4         LAT_1


2.0  ADDING THE /CLUSTER-NODE SWITCH TO ADDITIONAL OPR COMMANDS

     The following commands now have the  /CLUSTER-NODE:   switch
which allows them to be executed on a remote node in the cluster:

     ABORT

     ALIGN PRINTER

     BACKSPACE PRINTER

     CANCEL

     CLOSE LOG

     CONTINUE

     DEFINE ALIAS

     DISABLE (except for DISABLE OUTPUT-DISPLAY)

     DISMOUNT

     ENABLE (except for ENABLE OUTPUT-DISPLAY)

     FORWARDSPACE

     HOLD

     IDENTIFY

     MODIFY

     MOUNT

     NEXT

     RELEASE

     REPORT

     REQUEUE

     RESPOND

     ROUTE

     SEND

     SET (excluding SET ONLINE)

     SHOW (excluding SHOW CONTROL-FILE and SHOW TIME)

     SHUTDOWN (excluding SHUTDOWN NODE)

     START (excluding START NODE)

     STOP

     SUPPRESS

     SWITCH

     UNDEFINE

3.0  THE SELECTIVE ROUTING AND RECEIVING OF REMOTE OPR MESSAGES

     It is now possible to selectively route  messages  from  one
node  in a cluster to another node in that cluster.  Furthermore,
an operator can selectively enable or disable to receive messages
that  are  routed  from  a  remote  node  in  the cluster to that
operator's node.

     The following commands have been added in  support  of  this
feature:

o ENABLE/DISABLE BROADCAST-MESSAGES message-type NODE cluster-node-name
  or * {/CLUSTER-NODE: cluster-node-name or *}

o SHOW BROADCAST-MESSAGES {NODE cluster-node-name or *}
  {/CLUSTER-NODE: cluster-node-name or *}

o ENABLE/DISABLE OUTPUT-DISPLAY message-type {NODE cluster-node-name or *}

o SHOW OPERATOR/ALL {/CLUSTER-NODE:cluster-node-name or *}


     The  ENABLE/DISABLE  BROADCAST-MESSAGE  commands  enable  or
disable  the  sending  of the specified messages to the indicated
remote cluster node or to all remote nodes if "*" was specified.

     The SHOW BROADCAST-MESSAGES  command  shows  which  messages
have  been  enabled or disabled to be sent to the indicated remote
cluster node or to all remote cluster nodes if "*" was  specified
or if the NODE keyword is missing.

     The ENABLE/DISABLE OUTPUT-DISPLAY commands now  include  the
NODE keyword.  The NODE keyword indicates that the display of the
specified messages from the indicated node, or all nodes  if  "*"
was specified, are to be enabled or disabled.

     The SHOW OPERATOR command now  has  the  /ALL  switch  which
indicates  for  each  message  type  whether  the display of that
message type is enabled or disabled.  If an operator has  enabled
or  disabled  message  displays for messages from remote nodes in
the cluster, these are also shown.

     It should be noted that for a message to be displayed from a
remote  node in the cluster, the command ENABLE BROADCAST-MESSAGE
for that message type must be given  on  that  remote  node.   In
addition,  the  operator  on  the local node must give the ENABLE
OUTPUT-DISPLAY command  for  that  message  type  indicating  the
remote node as the NODE keyword argument.

     The intent of the broadcast messages feature is to allow  an
operator,  logged-in  to  one  node in a cluster, to see messages
being generated on remote nodes in that cluster.  For example, in
a  two-node  cluster  with  nodes  FOO  and  BAR,  assume that an
operator is logged in on node FOO and wishes to see all  messages
generated on node BAR.  The following commands could be used:

```
OPR>ENABLE BROADCAST-MESSAGES ALL-MESSAGES NODE FOO /CLUSTER-NODE:BAR
OPR>
14:07:02  Received message from BAR::
14:06:48   --Broadcast message display modified--
OPR>ENABLE OUTPUT-DISPLAY ALL-MESSAGES NODE BAR
OPR>
14:07:44   --Output display for OPR modified--
OPR>SHOW BROADCAST-MESSAGES/CLUSTER-NODE:BAR
OPR>
14:08:29  Received message from BAR::
14:08:15           -- Broadcast Messages --

     FOO     Message type
     ------  ------------
     Ena    BATCH-MESSAGES
     Ena    CARD-PUNCH-MESSAGES
     Ena    CARD-READER-INTERPRETER-MESSAGES
     Ena    FILE-RETRIEVAL-MESSAGES
     Ena    MOUNT-MESSAGES
     Ena    PAPER-TAPE-PUNCH-MESSAGES
     Ena    PLOTTER-MESSAGES
     Ena    PRINTER-MESSAGES
     Ena    READER-MESSAGES
     Ena    USER-MESSAGES

     Ena    BUGCHK-MESSAGES
     Ena    BUGINF-MESSAGES
     Ena    DECNET-EVENT-MESSAGES
     Ena    DECNET-LINK-MESSAGES
     Ena    SYSTEM-MESSAGES

     Ena    LCP-MESSAGES
     Ena    NCP-MESSAGES

OPR>SHOW OPERATORS/ALL
OPR>
14:08:57           -- Operators --

    Node      Type    Terminal   Job         User
   ---------- ------  --------   ---  --------------------------
FOO           system     443      88  JROSSELL
    FOO     BAR     Message type
    ------  ------  ------------
     Ena    Ena    BATCH-MESSAGES
     Ena    Ena    CARD-PUNCH-MESSAGES
     Ena    Ena    CARD-READER-INTERPRETER-MESSAGES
     Ena    Ena    FILE-RETRIEVAL-MESSAGES
     Ena    Ena    MOUNT-MESSAGES
     Ena    Ena    PAPER-TAPE-PUNCH-MESSAGES
     Ena    Ena    PLOTTER-MESSAGES
     Ena    Ena    PRINTER-MESSAGES
     Ena    Ena    READER-MESSAGES
     Ena    Ena    USER-MESSAGES

     Ena    Ena    BUGCHK-MESSAGES
     Ena    Ena    BUGINF-MESSAGES
```

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        Ena     Ena     DECNET-EVENT-MESSAGES
        Ena     Ena     DECNET-LINK-MESSAGES
        Ena     Ena     SYSTEM-MESSAGES

        Ena     Ena     LCP-MESSAGES
        Ena     Ena     NCP-MESSAGES

    **** SEMI-OPR is enabled ****