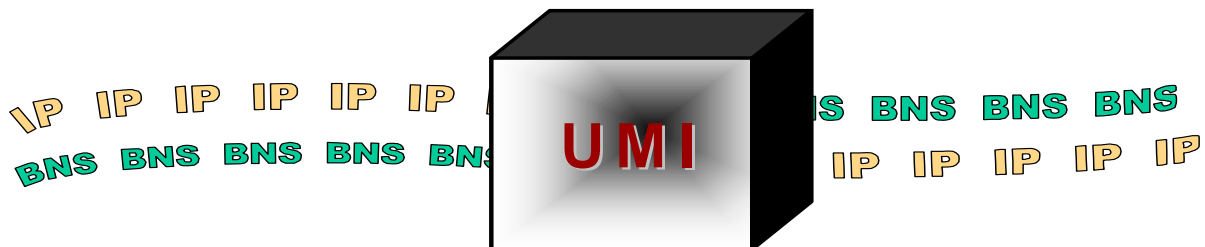




**UNIVERSAL MEDIATION  
INTERFACE (UMI) MODULE  
USER'S MANUAL SUPPLEMENT  
FOR BNS/DATAKIT® II VCS NODES**

**Issue 1.3**

(Corresponds to UMI Build 23 or higher)



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## 1 INTRODUCTION

Connectivity between an IP network and a BNS (refers to both BNS-2000 and BNS-2000 VCS (aka. Datakit® II VCS)) network is accomplished using the **Universal Mediation Interface Module (UMI)**. As a state-of-the-art “solid state” module that resides in a BNS node, the UMI is both a replacement and enhancement of the LCS60 product.

The UMI allows both synchronous and asynchronous endpoints connected to a BNS network to access endpoints on an IP network. Similarly, endpoints on an IP network can access both synchronous and asynchronous endpoints on a BNS network.

The UMI can be located anywhere in the BNS network, thus simplifying configuration, administration and maintenance without affecting operation or connectivity.

This document is a supplement to the “**Universal Mediation Interface User Manual (UM-UMI)**” and to the standard BNS documents: “**Data Networking Products, Synchronous/Asynchronous Multiplexor Reference**” and “**Data Networking Products, Commands Reference**”. This supplement documents the new feature for a BNS/Datakit controller that allows a UMI module to be configured as standard BNS module, namely a UMI, in the node. Prior to this feature the UMI was configured on the BNS controller as a SAM504, mapping 504 BNS ports to 504 “virtual ports” residing in the IP network. All IP configuration data was entered directly on the UMI console. Hence, every virtual port had to be configured twice, once on the node and once on the UMI module itself. With this feature, the Base Configuration of the UMI and the configuration of all the virtual ports (vports) including their IP information is performed on the BNS node only, and downloaded to the UMI module when it is restored to service. (Beginning with build 23, the UMI’s internal IP address is no longer downloaded from the node due to security reasons.) The major benefits are that all IP configuration information for the module and all the virtual ports can be entered, changed, verified, saved, and backed-up on the BNS controller, just like for any other BNS module, and once only. The exception is the IP address which must be input on both the node and UMI separately.

This document provides all the new commands and changes made in the node’s controller. A new maintenance release of the node controller software must be obtained and installed on a node in order to use this feature. Presently, this feature is available for nodes running BNS-2000 VCS (Datakit II VCS) Release 6.0 only and for BNS-2000 Releases 4.0 and 5.0. Explanation of each of the comparable parameters in the commands is shown in the UM-UMI.

## 2 PREREQUISITES AND CAVEATS

There are a few prerequisites and caveats:

1. It is assumed that the reader is already familiar with the terminology, methods, and conventions in the BNS/Datakit documentation that are used to configure modules in a node, and that a copy of the UM-UMI is available for reference. The format of the commands described below is the same as used in existing BNS documentation.
2. The UMI module must have build 19 or above installed in it. This document assumes that build 23 or above is installed on the module.

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3. In order to take advantage of all the features and maintenance fixes for the UMI, one of the following releases must be installed in the node:
  - BNS-2000 VCS (a.k.a. Datakit II VCS) Release 6.0 Build 95
  - BNS-2000 Release 4.0 Build 92
  - BNS-2000 Release 5.0 Build 88

Appendix A in section 6 provides a cross-referenced list of UMI features and in what BNS/Datakit release, a feature was supported on a node.

4. In order for StarKeeper® II NMS to properly recognize and process *UMI* module information, a free patch for Release 10.0, available from Datatek Applications, Inc. must be installed.

### 3 FEATURE SUMMARY

For this feature the object *umi* and its associated new components have been added to several controller commands.

The affected commands are:

1. **Enter/Change/Delete/Verify UMI**, with the components **Module, Vport, PDD, Host and CUG.**
2. **Remove/Restore UMI** with components **Module and Vport.**
3. **Retrieve UMI and Convert UMI**

For other commands, *sam* is used as the argument even though the actual entity is a UMI module. These commands are:

1. **Display Measurements**
2. **Display Status**
3. **Verify Comment**

The syntax and details are described in later sections.

A third set of commands does not use *sam* or *umi* as an argument, but are applicable. Examples of these are:

1. **Verify Oosmods** – this command identifies UMI modules in the output
2. **Display Circuits**
3. **Others**

There are several UMI commands that are not available on the node and hence must be executed on the UMI module console. Examples are:

1. **Banner**
2. **HPIO**
3. **Chgpass / Admpass**
4. **Version**

---

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## 4 DATABASE ISSUES

If a UMI has been previously configured on the node as a SAM504 and in the UMI module itself, the information does not all have to re-entered when using this feature. The Datakit node **retrieve** and **convert** commands can be used. However, if there is an inconsistency between the definition on the node of a SAM port and the information in the UMI module, the converted configuration will be consistent with the information originally in the node definition except for the UMI's IP address. The IP address configured via the UMI console is not overridden by the downloaded one from the node due to security reasons. If the IP address is changed, it must be entered in both the node via the node console and on the UMI itself via the UMI console. If the two are different, the node produces a MAJOR alarm when downloading the UMI module.

The new UMI configuration information is added to the controller disk files in /etc. New files are generated and named `umimod.<mod mo.>`. These files are included in all of the database management processes including *backup* and *sync*. Therefore, installation of the BNS-2000 VCS, Release 6.0 Build 87 or higher, BNS-2000 Release 4.0 Build 92 or higher, or BNS-2000 Release 5.0 Build 82 or higher does not require a database upgrade or conversion for this feature.

After a UMI module has been configured on the node using the new controller capability, if a user enters a change via the UMI's console for a parameter that can be configured on a node, that change is not saved in the BNS database. Therefore when that module is re-downloaded from the controller as the result of a **restore** command, all changes configurable on a node but entered via a UMI console will be lost. All changes should be installed using the BNS edit commands on the node except for the UMI's IP address, which must be entered on both the node and in the module, and the banner which must be configured via the UMI console.



## 5 COMMANDS

The commands presented below can be entered either in prompted mode, single line mode, or a combination, just like for other BNS commands. The appendix shows the correspondence between the commands and parameters that were entered at a UMI module console and those that are now entered via a BNS-2000 VCS console on a node or a StarKeeper console via the **setnode** command.

For change, verify and delete commands, the values for some parameters can be ranges. If a range specifies all possible values for a parameter, the controller interprets the range as meaning “*all configured values*”. If something less than the entire range is specified, then all entities in the range have to have been previously configured. Otherwise, the command is rejected. For example, in **verify umi vport**, the user can specify the range 1-504 for the vport number which is interpreted as “all”. If only 300 of the possible 504 vports have been configured, the command would execute properly and all 300 vports displayed. However, if the user had specified the range 1-503 in the command and only 300 ports had been configured, the command would be rejected.

It's important to note that although a single UMI supports call setup in both directions simultaneously, each grouping of virtual ports must be configured for one direction only; i.e., there are no two-way virtual ports. In addition, virtual ports intended to be used for synchronous and asynchronous call connections must reside in different groups, since their protocol encapsulation is different.

### 5.1 Retrieve and Convert

If an existing definition of the UMI exists in the node as a SAM504 and in the UMI itself, there are two utilities to assist the administrator to convert these definitions into UMI' defined on the controller: **Retrieve** and **Convert**.

```
CC0> retrieve umi <mod no.>
```

Where *the module address* is the number of the in-service SAM504 module. The command requests IP configuration information from the UMI. The replies from the UMI will be used to build a configuration file for the UMI. The module must be in service for the control computer to communicate with it.

After the **retrieve** command is run, the module must be converted from a SAM504 to a UMI. Remove the module with:

```
CC0> remove sam module <mod_no>
```

**With the SAM504 out of service, run the following command which will convert the SAM504 to a UMI and add any missing configuration:**

```
CC0> convert module <mod_no> umi
```



## 5.2 Enter and Change

The prompts below are the same for both the **enter** and the **change** commands. For the **enter** command, the default for a parameter is shown in parenthesis for that parameter when there is a default. For the **change** command, the default value is the currently configured value for that parameter.

```
CC0> enter or change
OBJECT: [...umi...] umi
COMPONENT: [module, vport, cug, host, pdd]
```

**If COMPONENT is "module":**

*(The parameters correspond to the "local", "gateway", "dns" and "snmp" commands on the UMI console.)*

```
MODULE ADDRESS:
COMMENT [up to 60 chars double quoted]:
DOWNLOAD SERVER [+(controller)]:
SOFTWARE VERSION [+(standard)]:
GATEWAY ADDRESS [decimal dot notation: +(none)]:
LOCAL IP ADDRESS [decimal dot notation: +(none)]:
LOCAL IP SUBMASK [decimal dot notation: +(none)]:
SNMP IP ADDRESS [decimal dot notation | none: +(none)]:
SNMP IP PORT [1-65535 | none: +(none)]:
SNMP IP CUG LIST [1-32 | 0 for none +(0)]:
```

**INFO:** The non-volatile initial values are stored on the DTK41 I/O module for the following mib2 config. If no DTK41 exists, the command will still operate but the values remain volatile.

```
SNMP Community [ mnemonic | none: +(none)]:
SNMP MIB-II sysContact [ mnemonic | none: +(none)]:
SNMP MIB-II sysName [ mnemonic | none: +(none)]:
SNMP MIB-II sysLocation [ mnemonic | none: +(none)]:
DNS IP ADDRESS 1[decimal dot notation | none: +(none)]:
DNS IP ADDRESS 2[decimal dot notation | none: +(none)]:
DNS IP ADDRESS 3[decimal dot notation | none: +(none)]:
DOMAIN NAME 1[mnemonic | none: +(none)]:
```



**Enter and Change - continued**

DOMAIN NAME 2[mnemonic | none: +(none)]:  
DOMAIN NAME 3[mnemonic | none: +(none)]:

*The command then loops back to the MODULE ADDRESS prompt.*

**Enter and Change - continued**

**If the COMPONENT is "vport":**

*(The following prompts correspond to the parameters in the "vport" command on the UMI console.)*

MODULE ADDRESS:  
VPORT NUMBER [1-504: +(1-504)]:  
COMMENT [up to 60 chars double quoted]:  
PROTOCOL [async, sync, raw]:  
SERVICE TYPE [bns\_to\_ip, ip\_to\_bns: +(ip\_to\_bns)]:  
GROUP [up to 8 chars]:

*If PROTOCOL is "sync" and SERVICE TYPE is "ip\_to\_bns":*

PREDEFINED DESTINATION:

*If PROTOCOL is "async" or "raw" and SERVICE TYPE is "ip\_to\_bns":*

PREDEFINED DESTINATION [+(none)]:  
SESSION HOLD [on, off +(off)]:

*If SESSION HOLD is "on":*

ATTENTION CHARACTER [none, lbrk, del, a character: +(lbrk)]:  
ATTENTION ACTION [command\_mode, disconnect: +(command\_mode)]:

*If PROTOCOL is "async" or "raw" and SERVICE TYPE is "ip\_to\_bns":*

NODE ECHOES USER INPUT [yes, no: +(yes)]:

*If PROTOCOL is "async" or "raw":*

NULL AFTER CARRIAGE RETURN [transparent, no\_null:  
+(transparent)]:  
LF AFTER CARRIAGE RETURN [transparent, no\_lf: +(transparent)]:  
BITS PER CHARACTER [8bits, 7bits: +(8bits)]:





### **Enter and Change - Component "vport" continued**

*If SERVICE TYPE is "ip\_to\_bns":*

**HUNT GROUP PORT [1-65535: +(23)]:**

**CUG LIST [1-32,0 for none: +(0)]:**

*If SERVICE TYPE is "bns\_to\_ip":*

**DESTINATION IP ADDRESS [decimal dot notation: +(none)]:**

**DESTINATION TCP PORT [1-65535: +(none)]:**

**DESTINATION PDD ID [1-16 | 0 for none +(0)]:**

**PEER TO PEER ENCRYPTION [transparent, encrypt:  
+(transparent)]:**

*If module SERVICE STATE is "out":*

**INITIAL SERVICE STATE [in, out: +(out)]:**

*The command then loops back to the VPORT NUMBER prompt.*

Vports are entered as single ports or *ranges* of ports. The specific values of parameters chosen for the vports in a range generate a single IP configuration. Changes to that configuration should also be input as a range. If a parameter value for a single vport within a range is changed, the range will be split into multiple ranges that cannot be rejoined. Corresponding and multiple IP configurations will be generated. For example, if vport 1-200 are entered, there is one IP configuration for all of these ports. If vport 100 is changed, there will now be three ranges and three IP configurations: vports 1-99, vport 100 and vports 101-200. This is obvious in the verify report output.

### **Enter and Change - continued**

***If COMPONENT is "cug":***

*(The following prompts correspond to the parameters in the "cug" command on the UMI console.)*

**MODULE ADDRESS:**

**CUG NUMBER [1-32]:**

**CUG IP ADDRESS [decimal dot notation: +(none)]:**

**CUG SUBMASK [decimal dot notation: +(none)]:**

*The command then loops back to the CUG NUMBER prompt.*

**Enter and Change - continued**

**If COMPONENT is "host":**

(The following prompts correspond to the parameters in the "host" command on the UMI console.)

MODULE ADDRESS:

HOST ID [1-32]:

HOST NAME:

HOST IP ADDRESS [decimal dot notation: +(none)]:

HOST TCP PORT [1-65535]:

The command then loops back to the HOST ID prompt.

**If COMPONENT is "pdd":**

(The following prompts correspond to the parameters in the "pdd" command on the UMI console. This command allows the specification of mnemonic addresses instead of numeric IP addresses.) **Note: This functionality can only be used if the UMI has a DTK41 IO board installed.** If the board is not present on the UMI this configuration will be ignored by the UMI.

MODULE ADDRESS:

DESTINATION PDD ID [1-16]:

DESTINATION PDD ADDRESS: [up to 63 characters not double quoted | none]

(The word "none" is reserved. Its deletes a PDD address. It cannot be used as a valid PDD address name.)

The command then loops back to the DESTINATION PDD ID prompt.



### 5.3 Verify

```
CC0> verify
OBJECT: [...umi...]
COMPONENT: [module, vport, host, cug, pdd]
```

**If COMPONENT is "module":**

```
MODULE ADDRESS: [+(all)]:
```

*The format of a sample output report is:*

```
04-04-12 12:59:16 NODE=tweety
M verify umi module 17
MODULE ADDRESS: 17
MODULE TYPE: umi                      NCHLS: 512
SERVICE STATE: out (manual)
DOWNLOAD SERVER: controller
VERSION: standard
GATEWAY ADDRESS: 0.0.0.0
LOCAL IP ADDR:    0.0.0.0              LOCAL SUBMASK:  0.0.0.0
SNMP IP ADDR:    0.0.0.0              SNMP PORT:      0
DNS1 IP ADDR:    0.0.0.0
DNS2 IP ADDR:    0.0.0.0
DNS3 IP ADDR:    0.0.0.0
DNS NAME1:
DNS NAME2:
DNS NAME3:
SNMP Community:
SNMP MIB-II sysContact:
SNMP MIB-II sysName:
SNMP MIB-II sysLocation:

COMMENT:
```



**Verify** - continued

If the **COMPONENT** is "vport":

MODULE ADDRESS:

VPORT NUMBER [1-504: +(1-504)]: +

The format of a sample output report is:

```
04-12-07 14:02:06 NODE=brain
M verify umi vport 71 1-504
MODULE ADDRESS: 71
MODULE TYPE: umi                NCHLS: 512
SERVICE STATE: in
DOWNLOAD SERVER: controller
VERSION: standard
GATEWAY ADDRESS: 192.168.8.1
LOCAL IP ADDR:      192.168.8.22      LOCAL SUBMASK:
                    255.255.255.0
SNMP IP ADDR:      192.168.8.11      SNMP PORT:      162
SNMP CUG LIST:    0
DNS1 IP ADDR:     192.168.1.15
DNS2 IP ADDR:     0.0.0.0
DNS3 IP ADDR:     0.0.0.0
DNS NAME1: datatekcorp.com
DNS NAME2: datatekcorp.com
DNS NAME3: datatekcorp.com
SNMP Community: none
SNMP MIB-II sysContact: none
SNMP MIB-II sysName: none
SNMP MIB-II sysLocation: none

COMMENT: test of comments

Virtual Port Number 1 to 1
Service State ==> in
Service Type ==> bns_to_ip
```



**Verify - Component "vport" continued**

```
Group ==> umircv
Protocol ==> async
Destination IP Address ==> 0.0.0.0 TCP Port 23
Null after CR ==> Transparent
LF after CR ==> Transparent
Bits Per Character ==> 8bit
Peer to Peer Encryption ==> Transparent
COMMENT    test of retr umi
```

```
04-12-07 14:02:06 NODE=brain
```

```
M verify umi vport 71 1-504
```

```
Virtual Port Number 2 to 32
Service State ==> in
Service Type ==> ip_to_bns
Group ==> umiorig
Protocol ==> async
PDD ==> none
Hunt Group Port ==> 23
CUG list ==> 0
Node Echo User Input ==> yes
Session Hold ==> off
Null after CR ==> Transparent
LF after CR ==> Transparent
Bits Per Character ==> 8bit
Peer to Peer Encryption ==> Transparent
COMMENT    test of retr umi
```

```
Virtual Port Number 200 to 200
Service State ==> in
Service Type ==> bns_to_ip
Group ==> umircv
Protocol ==> async
```



**Verify** - Component “vport” continued

Null after CR ==> Transparent  
LF after CR ==> Transparent  
Bits Per Character ==> 8bit  
Peer to Peer Encryption ==> Transparent  
COMMENT

Note that the content of the **verify umi vport** report will depend on the type of PROTOCOL and SERVICE TYPE for a range of ports. The output will differ for “async” versus “sync” or “raw”, and “bns\_to\_ip” versus “ip\_to\_bns”.

**Verify** - continued

*If COMPONENT is “host”:*

MODULE ADDRESS:  
HOST ID [(+)(1-32)]:

*The format of a sample output report is:*

```
02-04-12 12:58:10 NODE=tweety
M verify umi host 17
MODULE ADDRESS: 17
MODULE TYPE: umi                NCHLS: 512
SERVICE STATE: out (manual)
DOWNLOAD SERVER: controller
VERSION: standard
GATEWAY ADDRESS: 0.0.0.0
LOCAL IP ADDR: 0.0.0.0          LOCAL SUBMASK: 0.0.0.0
SNMP IP ADDR: 0.0.0.0          SNMP PORT: 0
DNS1 IP ADDR: 0.0.0.0
DNS2 IP ADDR: 0.0.0.0
DNS3 IP ADDR: 0.0.0.0
DNS NAME1:
DNS NAME2:
DNS NAME3:
SNMP Community:
SNMP MIB-II sysContact:
SNMP MIB-II sysName:
SNMP MIB-II sysLocation:
```



**Verify - Component "host" continued**

COMMENT:

HOST ID->6 HOST NAME->pamela

IP ADDRESS->1.2.3.4 TCP PORT->5000

**Verify - continued**

*If COMPONENT is "cug":*

MODULE ADDRESS:

CUG NUMBER [1-32: +(1-32)]:

*The format of a sample output report is:*

```
M verify umi cug 17
MODULE ADDRESS: 17
MODULE TYPE: umi                NCHLS: 512
SERVICE STATE: out (manual)
DOWNLOAD SERVER: controller
VERSION: standard
GATEWAY ADDRESS: 0.0.0.0
LOCAL IP ADDR: 0.0.0.0          LOCAL SUBMASK: 0.0.0.0
SNMP IP ADDR: 0.0.0.0          SNMP PORT: 0
DNS1 IP ADDR: 0.0.0.0
DNS2 IP ADDR: 0.0.0.0
DNS3 IP ADDR: 0.0.0.0
DNS NAME1:
DNS NAME2:
DNS NAME3:
SNMP Community:
SNMP MIB-II sysContact:
SNMP MIB-II sysName:
SNMP MIB-II sysLocation:
COMMENT:

CUG ID->1 IP ADDRESS->122.122.2.2
IP SUBMASK->255.255.255.0
CUG ID->3 IP ADDRESS->192.168.22.22
IP SUBMASK->255.255.0.0
```



**Verify - continued**

**If COMPONENT is "pdd":**

**MODULE ADDRESS:**

**DESTINATION PDD ID [(+)(1-16)]:**

*The format of a sample output report is:*

02-04-12 12:58:10 NODE=tweety

M verify umi pdd 17 1-16

MODULE ADDRESS: 17

MODULE TYPE: umi

NCHLS: 512

SERVICE STATE: out (manual)

DOWNLOAD SERVER: controller

VERSION: standard

GATEWAY ADDRESS: 0.0.0.0

LOCAL IP ADDR: 0.0.0.0

LOCAL SUBMASK: 0.0.0.0

SNMP IP ADDR: 0.0.0.0

SNMP PORT: 0

DNS1 IP ADDR: 0.0.0.0

DNS2 IP ADDR: 0.0.0.0

DNS3 IP ADDR: 0.0.0.0

DNS NAME1:

DNS NAME2:

DNS NAME3:

SNMP Community:

SNMP MIB-II sysContact:

SNMP MIB-II sysName:

SNMP MIB-II sysLocation:

COMMENT:

Destination PDDs

PDD ID->1 PDD->nj/dtk/tweety

PDD ID->2 PDD->homeaddress



## 5.4 Remove and Restore

```
CC0> remove or restore  
OBJECT: [...umi...] umi  
COMPONENT [module, vport]:
```

*If COMPONENT is "module":*

```
MODULE ADDRESS:
```

*If the COMPONENT is "vport":*

```
MODULE ADDRESS:
```

```
VPORT NUMBER [1-504: +(1-504)]:
```

The **restore umi mod** command will restore the UMI module and any *ready for service (RFS)* vports. It will download the IP configuration data entered for the module (except for the UMI's IP address), ready for service ports, hosts and cugs.

If the module address is already in service, the **restore umi vport** command will restore the vport or ports and send the vport configuration information to the module. If the module is out of service, the vport or ports will be marked *RFS*.

The **remove umi mod** command will take the UMI module out of service and mark any in service vports as *RFS*.

## 5.5 Delete

When deleting a UMI module, all the vports must be deleted first. CUGS, pdds and hosts for that UMI do not. They will be automatically deleted when the module is deleted.

```
CC0> delete  
OBJECT: [...umi...] umi  
COMPONENT: [module, vport, cug, host]
```

*If COMPONENT is "module":*

```
MODULE ADDRESS:
```

*If the COMPONENT is "vport":*

```
MODULE ADDRESS:
```

```
VPORT NUMBER [1-504: +(1-504)]:
```

**Delete - continued**

If **COMPONENT** is “cug”:

**MODULE ADDRESS:**  
**CUG NUMBER [1-32]:**

If **COMPONENT** is “host”:

**MODULE ADDRESS:**  
**HOST ID [1-32]:**

The “**delete**” command is *not* used to delete a **pdd** from the pdd address table. To delete a **pdd** address, do a “**chg umi**” and select “**pdd**”. Set the address to the value “**none**”.

```
CC0> change or chg
OBJECT: [...umi...] umi
COMPONENT: [module, vport, cug, host, pdd]
```

If **COMPONENT** is “pdd”:

**MODULE ADDRESS:**  
**DESTINATION PDD ID [1-16]:** [select index of pdd to be deleted]  
**DESTINATION PDD ADDRESS:** none

Note that if a **destination pdd address** is deleted from the pdd table by using the above sequence, the **destination pdd id** is no longer defined. A **vport** that previously has had its **destination pdd id** set to this index value will still have the value of its **destination pdd id** set to this index even though the **pdd** has no address value.

The “**delete**” command is also *not* used to delete the value of a **destination pdd id** from a **vport** definition. To delete the value of a **destination pdd id** from a **vport**, do a “**chg umi**” and select “**vport**”. Set the “**destination pdd id**” to a numeric zero (0). This affects only this **vport**.

## 5.6 Display Commands

Previously the two commands, **display measurements (dmeas)** and **display status (dstat)** for the UMI module worked in the following way: When either command is input, the OBJECT: **sam** was used instead of **umi** when the module was actually a UMI and not a SAM trunk module. These commands treated the UMI as a SAM504 in the command syntax and referred to SAM board and port. Therefore, a translation had to be done between the UMI vport number and the comparable SAM504 board and port. The following table provides that translation:

BNS Controller (SAM504) Board/Port ←-----→ UMI Virtual Port mapping

<b>SAM504 Board/Port Numbers</b>	<b>UMI Virtual Port Numbers</b>
Board 1 Ports 1-32	Ports 1-32
Board 2 Ports 1-32	Ports 33-64
Board 3 Ports 1-32	Ports 65-96
Board 4 Ports 1-32	Ports 97-128
Board 5 Ports 1-32	Ports 129-160
Board 6 Ports 1-32	Ports 161-192
Board 7 Ports 1-32	Ports 193-224
Board 8 Ports 1-32	Ports 225-256
Board 9 Ports 1-32	Ports 257-288
Board 10 Ports 1-32	Ports 289-320
Board 11 Ports 1-32	Ports 321-352
Board 12 Ports 1-32	Ports 353-384
Board 13 Ports 1-32	Ports 385-416
Board 14 Ports 1-32	Ports 417-448
Board 15 Ports 1-32	Ports 449-480
Board 16 Ports 1-24	Ports 481-504

Now starting with Datakit R6 Build 95, BNS-2000 R4 Build 92, and BNS-2000 Build 88, both commands are invoked with **umi** as the OBJECT. The resulting reports no longer rely on board and port, but now are driven by module and vport numbers.

### 5.6.1 Display Measurements

The validation routines will recognize the UMI community type. The *dmeas umi* command process will display measurements similar to those displayed currently for the SAM504.

```
CC0> dmeas umi  
COMPONENT [module, vport]: mod  
MODULE ADDRESS:  
INTERVAL [current, previous: +(current)]:
```

```
CC0> dmeas umi  
COMPONENT [module, vport]: vport  
MODULE ADDRESS:  
PORT NUMBER [1-504: +(1-504)]:  
INTERVAL [current, previous: +(current)]:
```

### 5.6.2 Display Status

The validation routines for the *dstat umi* and *dstat module* command processes will recognize the UMI community type. The reports will display similar information as that provided for the SAM504 but using the values used for UMI's.

```
CC0> dstat umi  
COMPONENT[module, vport: +(module)]: mod  
MODULE ADDRESS:  
DETAIL[low, high : +(low)]:
```

```
CC0> dstat umi  
COMPONENT[module, vport: +(module)]: vport  
MODULE ADDRESS:  
VIRTUAL PORT NUMBER [+(1-504)]:
```

### 5.6.3 Verify Comment

Select **umi** as the object for **Verify Comment** beginning with Datakit R6 Build 95, BNS-2000 R4 Build 92, and BNS-2000 R5 Build 88. For earlier builds **sam** was selected as the object.

```
CC0> vfy comment
```

```
MODULE TYPE [...sam, ... umi, ... +(all)]: umi
```

```
SEARCH CRITERION [double-quoted string or pattern, all:  
+(all)]:
```



## 6 APPENDIX A – FEATURE LIST AND NODE BUILD NUMBER CORRESPONDENCE

Feature	Minimum Build Required			
	UMI	Datakit R6	BNS R4	BNS R5
SNMP CUGs	20	88	92	82
Destination PDD	20	88	92	82
Multiple DNS IP Addresses	21	88	92	82
SNMP Community	22	90	92	84
SNMP SysName	22	90	92	84
SNMP SysContact	22	90	92	84
SNMP SysLocation	22	90	92	84
UMI files included by Backup Host	19	91	92	85
UMI files included by Retrieve Host	19	91	92	85
Remove UMI files via dvdelete on node	19	91	92	85
Double-Dial	23	92	92	86
verify grp umi	19	92	92	86
Host ID Range of 1-32	19	93	92	87
Vports shown on Display connections	19	93	92	87
verify comment umi	19	95	92	88
dstat umi	19	95	92	88
dmeas umi	19	95	92	88

## 7 APPENDIX B – COMMAND/PARAMETER COMPARISON TABLE

UMI Module Command/Parameters	BNS/Datakit Command/Parameters	Comments
admpass	No comparable BNS UMI module command	<b>Enter node</b> command administers password for the <i>node console</i>
banner	No comparable BNS UMI module command	
chgpas	No comparable BNS UMI module command	<b>Change node</b> command administers password for the <i>node console</i>
clear	No comparable BNS module command	
console	No comparable BNS module command	Can administer BNS <i>node console</i> security using <b>enter</b> and <b>change</b> node commands.
cug - cug number, ipaddr, submask	Enter/chg/del umi cug – module address, cug number, cug ip address, cug submask	
dconn	Display connections - type	Information in BNS report not same as UMI module dconn report
disc vport –vport#	Remove /restore umi vport – module address, vport number	
disc console	No comparable BNS module command	
dm mod	Dmeas umi module – module, interval	Actual module in BNS node is UMI
dm vport – vport #	Dmeas umi port – module address, vport range, interval	Actual module in BNS node is UMI
dns – ipaddrX, nameX	Enter/chg umi module – module address, dns ip address X, domain name X	
gateway – ipaddr	Enter/chg umi module – module address, gateway address	

## Command/Parameter Comparison Table (Continued)

UMI Module Command/Parameters	BNS/Datakit Command/Parameters	Comments
help	Help or dkhelp (from StarKeeper II NMS)	
host host # -name, ipaddr, port	Enter/chg umi host – module address, host id, host ip address, host tcp port	
host host # - del	Delete umi host – module, host id	
hpio reset	No comparable BNS UMI module command	
hpio enable - all	No comparable BNS UMI module command	
hpio disable - all	No comparable BNS UMI module command	
hpio enable – fiber, 10/100 phy range	No comparable BNS UMI module command	
hpio disable – fiber, 10/100 phy range	No comparable BNS UMI module command	
Install	No comparable BNS UMI module command	New UMI module software must be installed via UMI hardware/telnet console – not available as a node controller option
label	No comparable BNS UMI module command	
local –ipaddr, submask	Enter/chg umi module – module address, local ip address, local ip submask	<b>IP address must be entered via UMI serial console</b>
login/logout	No comparable BNS UMI module command	
pdd	Enter/chg umi pdd – module address, destination pdd id, destination pdd address	
ping	No comparable BNS node command	Can ping from StarKeeper if StarKeeper host is connected to IP network
reboot	Remove/restore umi module – module address	





## Command/Parameter Comparison Table (Continued)

UMI Module Command/Parameters	BNS/Datakit Command/Parameters	Comments
remove	Remove umi module – module address	
restore	Restore umi module – module address	
snmp – ipaddr, port	Enter/chg umi module – module address, snmp ip address, snmp udp port	
snmp - cug	Enter/chg umi module – module address, snmp cug list	
snmp - comm	Enter/chg umi module – module address, snmp community	
snmp - syscontact	Enter/chg umi module – module address, snmp MIB-II sysContact	
snmp - sysname	Enter/chg umi module – module address, snmp MIB-II sysName	
snmp - sysloc	Enter/chg umi module – module address, snmp MIB-II sysLocation	
timeout	No comparable BNS UMI module or node command	Node console has non- settable timeout for command input
uprompt	No comparable BNS UMI module command	
version	No comparable BNS UMI module command	
vfy mod	Verify umi module – module address	
vfy vport	Verify umi vport – module address, vport number	
vfy cug	Verify umi cug – module address, cug number	



## Command/Parameter Comparison Table (Continued)

UMI Module Command/Parameters	BNS/Datakit Command/Parameters	Comments
vfy host	Verify umi host – module address, host id	
vport – vport #, cnt, incr	Enter/chg/del umi vport – module address, vport number	
vport – vport #, type	Enter/chg/del umi vport – module address, vport number, service type	
vport – vport #, pdd	Enter/chg umi vport – module address, vport number, destination pdd id	
vport – vport #, dest	Enter/chg/del umi vport – module address, vport number, destination ip address	
vport – vport #, dport	Enter/chg/del umi vport – module address, vport number, destination tcp port	
vport – vport #, hport	Enter/chg/del umi vport – module address, vport number, hunt group port	
vport – vport #, cug	Enter/chg/del umi vport – module address, vport number, cug list	
vport – vport #, prot	Enter/chg/del umi vport – module address, vport number, protocol	
vport – vport #, crfix	Enter/chg/del umi vport – module address, vport number, null after carriage return	
vport – vport #, crlf	Enter/chg/del umi vport – module address, vport number, lf after carriage return	
vport – vport #, data	Enter/chg/del umi vport – module address, vport number, bits per character	



## Command/Parameter Comparison Table (Continued)

UMI Module Command/Parameters	BNS/Datakit Command/Parameters	Comments
vport – vport #, session	Enter/chg/del umi vport – module address, vport number, session hold, attention character, attention action	
vport – vport #, crypt	Enter/chg/del umi vport – module address, vport number, peer to peer encryption	



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