

**DATAKIT® II VCS
TSM-T1 TO TSM-T1 SPLICER
(TT-SPLICER)
DKAP APPLICATION**

**ADMINISTRATION GUIDE
ISSUE 1.1**

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1. OVERVIEW

This section describes the TT-Splicer Application for use on the Datakit II VCS Integrated Applications Processor (DKAP) module. This software will connect two TSM-T1 ports via the existing Datakit Network, splice the two destinations together, and drop out of the virtual circuit.

The node the TT-Splicer DKAP is located in may stay in the connection between the two TSM-T1 ports after the DKAP splices out. This depends on where the two TSM-T1 end points are located. If the two TSM-T1 destinations leave the TT-Splicer DKAP node over the same trunk the splice will be passed on to that Datakit node.

The TT-Splicer application is accessed from an asynchronous device. The two TSM-T1 destinations are specified as part of the dial string. See **Section 4** for further details on the dial string format. **Figure 1-1** illustrates the connection and splicing of the two TSM-T1 ports via the TT-Splicer DKAP application.

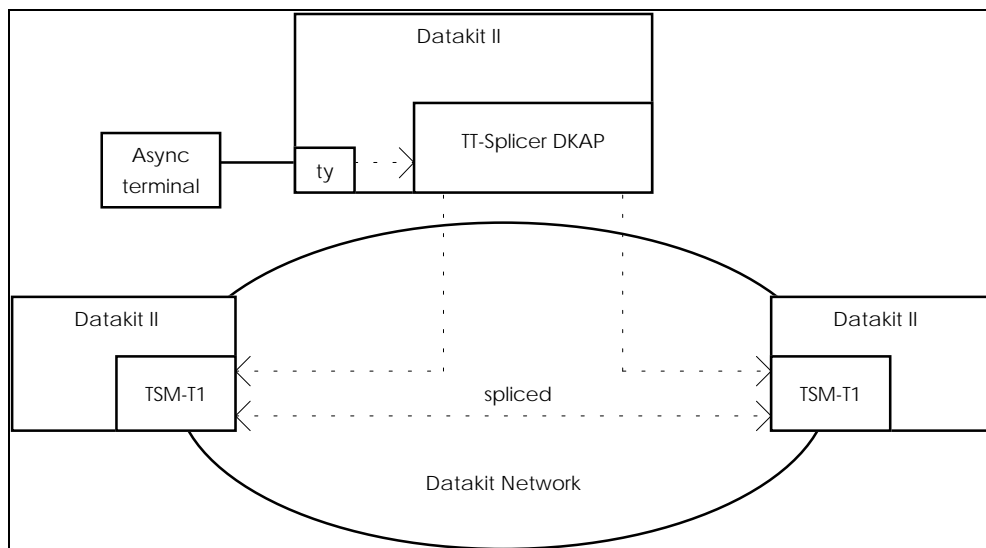


Figure 1-1 TT-Splicer Connection

1.1. ENVIRONMENT

The node that contains the DKAP running the TT-Splicer application must be at Datakit II Release 2.1 or higher. The version of the TT-Splicer software should correspond to the Datakit II Release of the node where the DKAP is located.

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2. DESCRIPTIVE CONFIGURATION

The TT-Splicer DKAP and TSM-T1 hardware configuration is described in this section.

2.1. DKAP

There are 18 channel sets available with Datakit II Release 2.1 and 3.0, and 63 channel sets available with Datakit II Release 4.0. Any channel set can be configured for use with the TT-Splicer application. Only one channel set is required, but if different security is desired then several channel sets may be configured. Any channel set to be used must be configured as a *2way* type so it can receive and originate calls.

2.2. TSM-T1

The TSM-T1 ports that will be accessed by the TT-Splicer application should be configured as a *host* type so that they can receive calls. The groups associated with the TSM-T1 ports should be configured as *receive* groups.

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3. INSTALLATION

3.1. PREREQUISITES

3.1.1. SPACE REQUIREMENTS

The TT-Splicer application requires approximately 134,000 bytes on the Datakit II Node where the application is to reside.

3.1.2. COMPONENTS

- Datakit II VCS Release 2.1 or higher
- Basic Network
- DKAP and TSM-T1 Modules

3.2. INSTALLING APPLICATION ON THE DATAKIT II NODE

This section describes the steps necessary to install the TT-Splicer application on the Datakit II control computer. These steps should be used by the Datakit administrator who is responsible for the Datakit II node where the application will reside.

Step 1: Insert the tape provided into one of the control computer tape drives on the Datakit II node where the application is to reside. Make sure the red light to the tape drive goes out before proceeding with the instructions.

Step 2: From the control computer console type the following command, where <ret> indicates to hit the return key.

```
utilsh <ret>
```

Step 3: The control computer will respond to the above command with the *UTILSH*> prompt. From this prompt type the following command, where <ret> indicates to hit the return key.

```
dkcsh <ret>
```

Step 4: If you are on Datakit II Release 3.0 or higher proceed with Step 4a, if you are on Datakit II Release 2.1 then proceed with Step 4b.

Step 4a: This step is for Datakit II Release 3.0 or higher. The control computer will respond to the above command with the *DKC\$* prompt. From this prompt type the following commands, where <ret> indicates to hit the return key. If you are not using the *primary* tape drive then make sure you specify the correct device in the following *cpio* command.

```
cd /download <ret>  
cpio -icmv </dev/Tape0 <ret>
```

Step 4b: This step is for Datakit II Release 2.1. The control computer will respond to the above command with the *DKC\$* prompt. From this prompt type the following commands, where <ret>

indicates to hit the return key. If you are not using the *primary* tape drive then make sure you specify the correct device in the following *cpio* command.

```
cd /download <ret>
cpio -icmvO 0x0 </dev/Tape0 <ret>
```

3.3. CONFIGURATION

The configuration listed in this section follows the conventions described in this section. For ease of documentation all addresses associated with a group will have the same name as the group. Input values that are enclosed in parenthesis, such as (*slot number*), are instructions to the Datakit administrator and are site dependent. It may be necessary to consult the Datakit II VCS Commands Reference Guide for further information on the various Datakit commands.

3.3.1. DKAP

A DKAP module can have 18 or 63 channel sets configured depending on the Datakit II Release. Only one channel set is required to be configured, although more than one can be configured if different security access is desired. The configuration examples will use channel set 2 of the DKAP, although the other channel sets and associated groups and addresses are configured the same if they are desired.

3.3.1.1. GROUP NAMES

At least one group must be configured that will be associated with a DKAP channel set. The configuration instructions are shown using channel set 2 of the DKAP, although the other channel sets and associated groups and addresses are configured the same if they are desired.

Channel Set 2: Configure one 2way group associated with channel set 2 that will be used for the TT-Splicer DKAP. At the Datakit console, CC0> prompt, enter the following command, where <ret> indicates to hit the return key.

```
enter group <ret>
```

You will be prompted to enter the group information. The following shows the group definition for the group associated with channel set 2 of the DKAP.

GROUP:	tts2
TYPE:	local
DIRECTION:	2way
DEV OR HOST	standard
HOST AUTOBAUD:	off
ROUND ROBIN SERVICE:	none

3.3.1.2. ADDRESSES

At least one address must be configured that will be associated with a DKAP channel set. The configuration instructions are shown using channel set 2 of the DKAP, although the other channel sets and associated groups and addresses are configured the same if they are desired.

Channel Set 2: Configure one address for channel set 2 that will be used to access the TT-Splicer DKAP. At the Datakit console, CC0> prompt, enter the following command, where <ret> indicates to hit the return key.

```
enter address <ret>
```

You will be prompted to enter the address information. The following shows the address definition for the address to access channel set 2 of the DKAP.

LEVEL:	local
TYPE:	mnemonic
MNEMONIC ADDRESS:	tts2
PAD SUPPORT:	no
DIRECTORY ENTRY:	none
GROUP(S):	tts2
ORIGINATING GROUP NAME SECURITY PATTERN(S):	none
INITIAL SERVICE STATE:	in

3.3.1.3. DKAP MODULE

You need to configure a DKAP module for the TT-Splicer DKAP. At the Datakit console, CC0> prompt, enter the following command, where <ret> indicates to hit the return key.

```
enter dkap <ret>
```

You will be prompted to enter the DKAP module information. The software version is TTSR#, where # depends on the Datakit II release. The example below uses a 4 for Datakit II Release 4.0.

COMPONENT:	module
MODULE ADDRESS:	(slot number)
COMMENT:	"TT-Splicer DKAP"
HARDWARE CONFIGURATION TYPE:	dkap
DOWNLOAD SERVER:	controller
SOFTWARE VERSION:	TTSR4
UPLOAD SERVER:	none
NUMBER OF USER CHANNELS:	(maximum 507)

3.3.1.4. DKAP CHANNEL SETS

For the TT-Splicer DKAP you need to configure at least 1 channel set. The configuration instructions are shown using channel set 2 of the DKAP, although the other channel sets are configured the same if they are desired.

Channel Set 2: Configure channel set 2 for the TT-Splicer DKAP. At the Datakit console, CC0> prompt, enter the following command, where <ret> indicates to hit the return key.

```
enter dkap <ret>
```

You will be prompted to enter the dkap channel set information. The following shows the DKAP channel set configuration for channel set 2 of the DKAP.

COMPONENT:	chnlset
MODULE ADDRESS:	(slot number)
CHANNEL SET ID:	2
NUMBER OF CHANNELS PER CHANNEL SET:	(maximum 507)
SERVICE TYPE:	2way
GROUP:	tts2

3.3.2. TSM-T1

To configure the TSM-T1 modules/ports that are to be accessed via the TT-Splicer DKAP application, refer to the appropriate Datakit II reference manuals. These TSM-T1 ports need to be configured as *host* type so that they can receive calls. The groups associated with these ports need to be configured as *receive* groups. Each port also needs a Datakit address associated with it. These addresses will be supplied on the dial string to the TT-Splicer DKAP at the destination prompt. See **Section 4** for further details on supplying the TSM-T1 destinations when accessing the TT-Splicer DKAP.

3.4. DOWNLOADING DKAP

Once a DKAP module has been configured, it will need to be restored to service. This will cause the DKAP module to download the TT-Splicer application from the control computer. You need to first restore the channel sets of the DKAP module to service. To restore a channel set on the DKAP to service, enter the following command at the Datakit console, where *dkap_slot_number* is the slot number of the DKAP module and *cs_number* is the DKAP channel set number:

```
rs dkap c dkap_slot_number cs_number
```

So if the dkap was in slot number 5 and you want to restore channel set 2 of the DKAP module, the command would be:

```
rs dkap c 5 2
```

Now you can restore the DKAP module to service, which will download the TT-Splicer application. To restore the DKAP module, enter the following command at the Datakit console, where *dkap_slot_number* is the slot number of the DKAP module:

```
rs dkap m dkap_slot_number
```

So if the dkap was in slot number 5, then to restore the module the command would be:

```
rs dkap m 5
```

3.5. EXAMPLE DKAP CONFIGURATION

Below is an example DKAP configuration for the TT-Splicer DKAP. The Datakit II node name used in the example is *red*, it is running Datakit II Release 4.0, and the DKAP is in slot number 5.

```
CC0> v dkap 5
```

```
94-10-04 13:59:11 NODE=red
verify dkap 5
```

```
MODULE ADDRESS: 5
MODULE TYPE: dkap                NCHLS: 100
SERVICE STATE: in
HARDWARE CONFIGURATION TYPE: dkap
DOWNLOAD SERVER: controller
VERSION: TTSR4
UPLOAD SERVER: none
UPLOAD ALWAYS BEFORE DOWNLOAD: no
UPLOAD ONLY AFTER FAULT: no
COMMENT: TT-Splicer DKAP
```

```
94-08-30 13:59:11 NODE=red
verify dkap 5
```

CHNL	CHNLS	CHNL RANGE	TYPE	GROUP	SRVC
2	100	5-104	2way	tts2	in

CHNL	PDD
2	none

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4. USER INTERFACE

This section describes how to use the TT-Splicer DKAP application. In order to access the TT-Splicer DKAP, the user will enter a dial string at the Datakit **DESTINATION** prompt or via a CommKit utility like **dkcu**. The dial string will have the following format, where *TT-Splicer_address* is the complete Datakit address of a channel set on the TT-Splicer DKAP to receive the call, *first_TSM-T1_port* is the Datakit address of the first TSM-T1 port, and *second_TSM-T1_port* is the Datakit address of the second TSM-T1 port. The Datakit addresses of the two TSM-T1 ports is relative to the node where the TT-Splicer DKAP resides.

TT-Splicer_address.first_TSM-T1_port.second_TSM-T1_port

The maximum length of the complete dial string is limited to 55 characters including any delimiters. If a longer dial string is required, it will need to be shortened by defining a speedcall address.

4.1. ACCESSING TT-SPLICER EXAMPLE 1

For the example shown in **Figure 4-1**, the Datakit address of the TT-Splicer Dkap channel set is **aa/red/tts2**, the Datakit address of the first TSM-T1 port is **aa/green/dragon**, and the Datakit address of the second TSM-T1 port is **bb/blue/knight**. The first TSM-T1 port is in the same area as the TT-Splicer DKAP, so the complete address for that TSM-T1 port is not required. The complete addresses of the TSM-T1 ports can be used if desired, provided the total dial string does not exceed the 55 character limit. So the dial string to access the TT-Splicer application and connect the two TSM-T1 ports in this example would be the following:

aa/red/tts2.green/dragon.bb/blue/knight

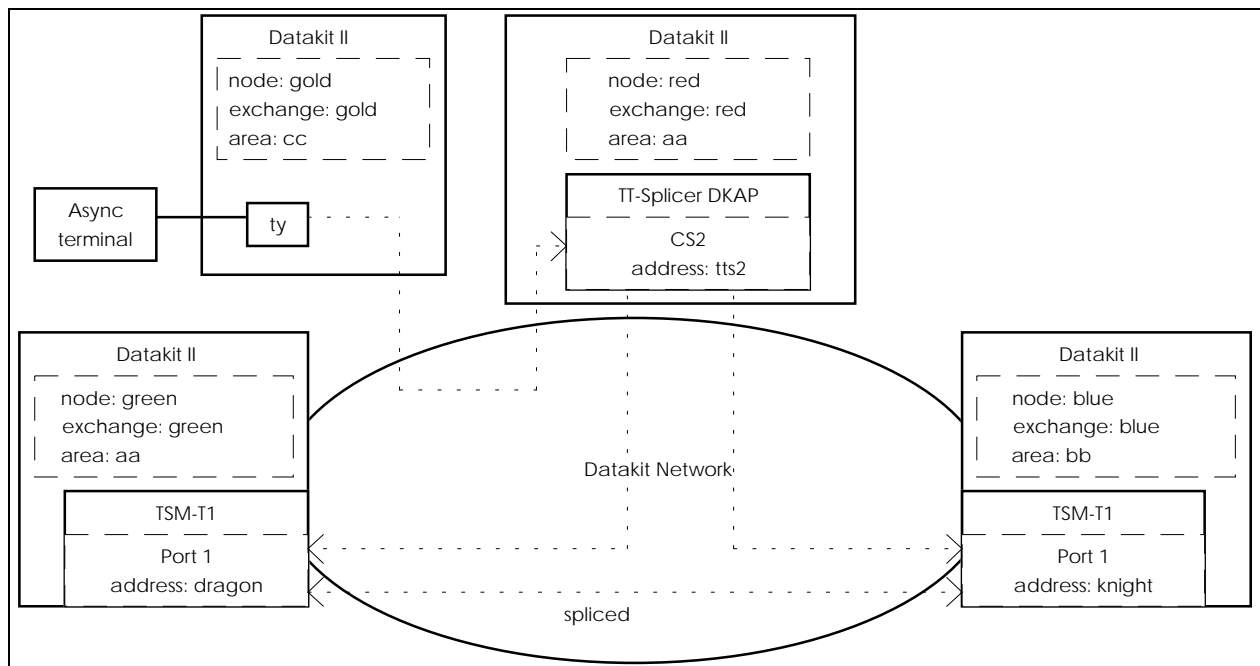


Figure 4-1 TT-Splicer Example 1

4.2. ACCESSING TT-SPLICER EXAMPLE 2

For the example shown in **Figure 4-2**, the Datakit address of the TT-Splicer Dkap channel set is **aa/red/tts2**, the Datakit address of the first TSM-T1 port is **aa/green/dragon**, and the Datakit address of the second TSM-T1 port is **aa/red/wizard**. The first TSM-T1 port is in the same area as the TT-Splicer DKAP and the second TSM-T1 port is in the same area and exchange as the TT-Splicer DKAP, so the complete address for these TSM-T1 ports is not required. The complete addresses of the TSM-T1 ports can be used if desired, provided the total dial string does not exceed the 55 character limit. So the dial string to access the TT-Splicer application and connect the two TSM-T1 ports in this example would be the following:

aa/red/tts2.green/dragon.wizard

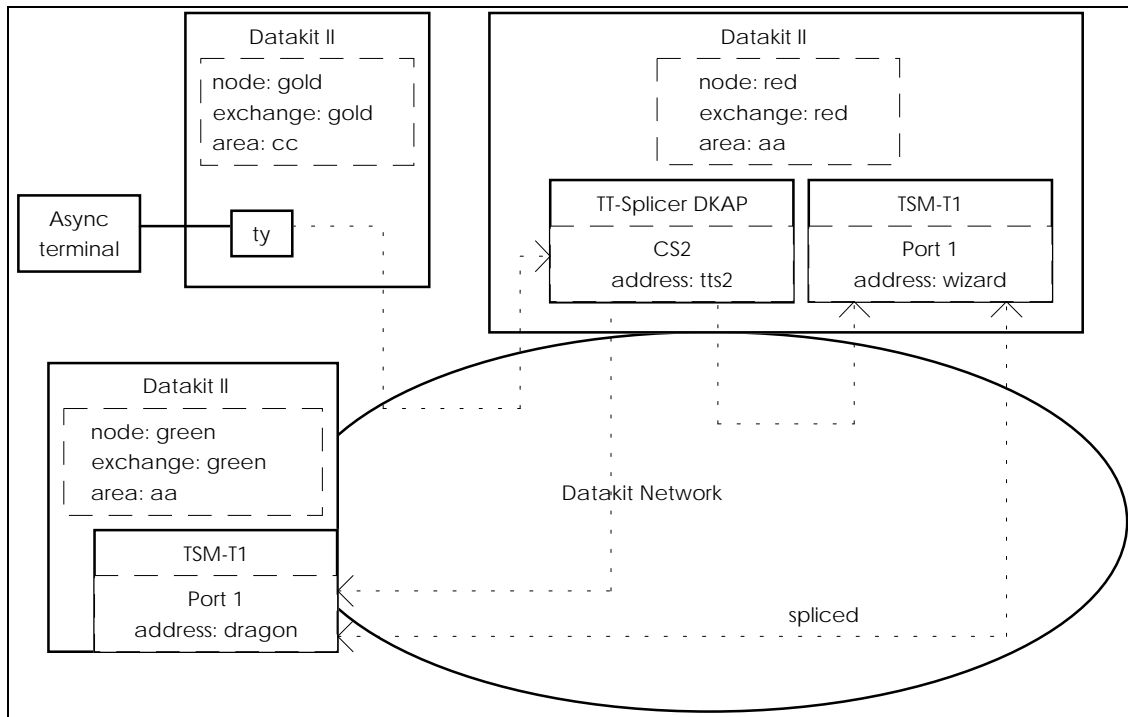


Figure 4-2 TT-Splicer Example 2

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5. MESSAGES

This section describes the messages displayed by the TT-Splicer DKAP application. When the TT-Splicer DKAP is accessed via an asynchronous device, it will get the two TSM-T1 destinations from the dial string, connect to the two destinations, splice them together, and drop out of the virtual circuit. Before the TT-Splicer DKAP drops out of the virtual circuit, it will display a message back to the asynchronous device. The message will inform the user of the success or failure of the two TSM-T1 connections.

The TT-Splicer DKAP will attempt to connect to the first TSM-T1 destination specified on the dial string. If it can not connect to the first destination then the appropriate error message is displayed along with the address of the first TSM-T1 port. After the connection to the first TSM-T1 port has been successful, the TT-Splicer DKAP will attempt to connect to the second TSM-T1 destination specified on the dial string. If it can not connect to the second destination then the appropriate error message is displayed along with the address of the second TSM-T1 port.

Table 5-1 contains a list of the possible messages displayed by the TT-Splicer application along with a brief description of each.

TT-Splicer: Connection Successful	The two TSM-T1 ports have been successfully connected to and are spliced together.
TT-Splicer: <i>address</i> Busy	The TSM-T1 port specified by <i>address</i> is busy.
TT-Splicer: <i>address</i> Invalid	The TSM-T1 port specified by <i>address</i> is not a valid address.
TT-Splicer: <i>address</i> No answer	The TSM-T1 port specified by <i>address</i> is not answering. The address may be out of service.
TT-Splicer: Unsuccessful	Any other error condition that is not listed above.

Table 5-1 TT-Splicer Messages