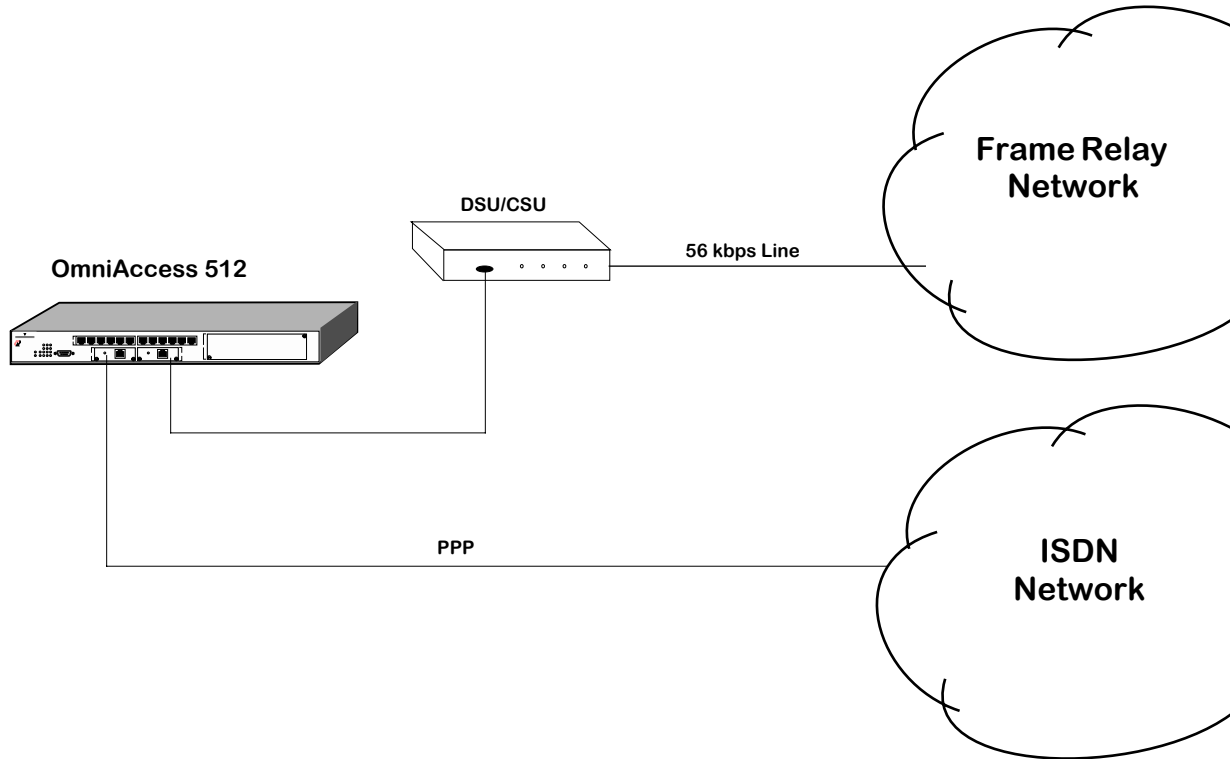


# 31 Backup Services

## Introduction

Backup Services are intended to be an integral part of a well-designed Wide Area Network (WAN). The purpose of a backup service is to provide an alternate route for data to take in the event of failure of the Primary port or Virtual Circuit. Initially, the primary entity may be either a physical port (any physical port type in the system), or a frame relay Private Virtual Circuit (PVC). The backup is via an ISDN BRI running Point-to-Point Protocol (PPP).

Backup services are configured by specifying information on the primary entity, the backup entity, and timers that control under what conditions the system will switch to backup mode. Both the primary and backup entities must be configured prior to accessing this menu. This menu also does no cross-checking to ensure that the primary being backed up is backed up by an “appropriate” backup entity. This is the responsibility of the user.



**Frame Relay to ISDN Backup**

## Backup Services Commands

Backup services provides commands to view and configure your backup services. All commands start with “bs” for “Backup Service” followed by the function desired. All backup commands may be typed in full, or a three character abbreviation may be used (e.g. **bsadd** or **bsa** may be used to create a backup service).

### Accessing the Backup Services Menu

The Backup Services menu is a submenu to the Interface menu. To access the Interface menu, enter **inter**, followed by **<return>**, as shown below.

```
/ % inter <return>
```

To display a command summary for the Interface menu, enter **?**, followed by **<return>**:

```
/inter % ?
```

A screen similar to that shown below will display:

Command	Networking Menu
slipc	Configure SLIP (Serial Line IP) on a TTY Port
atm	Enter the atm Management submenu
eth100	Enter the 100BaseT submenu
10/100	Enter the 10/100BaseT submenu
wan	Enter the Wide Area Networking submenu
backup	Enter Backup networking command submenu

Main	File	Summary	VLAN	Networking
Interface	Security	System	Services	Help

To enter the Backup menu, enter **backup**, followed by **<return>**, as shown below:

```
/Interface % backup <return>
```

To display a command summary for the Backup Services menu, enter **?**, followed by **<return>**.

```
/Interface/backup % ? <return>
```

A screen similar to that shown below will display:

Command	Networking Menu
bsadd	Add a Backup Service
bsmodify	Modify a Backup Service
bsview	View Backup Service(s)
bsdelete	Delete a Backup service

Main	File	Summary	VLAN	Networking
Interface	Security	System	Services	Help

## Adding a Backup Service

With the **bsadd** command, you can:

- Add a backup for a physical port
- Back up a frame relay PVC

### Adding a backup for a Physical Port

To add a backup service for a physical port:

1. Enter the **bsadd** command with no parameters, followed by **<return>**.

**/Interface/backup % bsa <return>**

A screen similar to that shown below will display:

```

Adding Backup Service Index          :1
1) Description                       : Backup 1
2) Admin Status { (E)nabled, (D)isabled } : Enabled
3) Primary Type { Physical Port (1),
    Frame Relay PVC DLCI (2) }       : Physical Port
    30) Slot                         : 3
    31) Port                         : 1
4) Backup Type { PPP Peer (1) }      : PPP Peer
    40) Peer ID                      :
5) Startup Timer Value { Time in Seconds after
    System Startup to wait
    for Primary to come up
    before activating
    Backup }                          : 300
6) Activate Timer Value { Time in Seconds after
    Primary Failure to
    activate Backup }                 : 30
7) Restore Timer Value { Time in Seconds after
    Primary restoral to
    disable Backup }                  : 30
(save/quit/cancel)                   :

```

2. When you first enter the command, the next unique index is assigned automatically, a default description is created (**Backup** followed by the new index number), and defaults for primary type, backup type, and all backup timers are created (as shown above).

3. To back up a physical port, enter the numbers for the slot and port to be backed up and the PPP peer index (which defines ISDN call and PPP parameters). Optionally, you can modify the timer values (fields 5-7). Below is an example of backing up the port on slot 3, port 1 with PPP peer index 5.

```
: 30=3
: 31=1
: 40=5
: ?
1) Description: Backup 1
2) Admin Status { (E)nabled, (D)isable } : Enabled
3) Primary Type { Physical Port (1),
   Frame Relay PVC DLCI (2) } : Physical Port
   30) Slot : 3
   31) Port : 1
4) Backup Type { PPP Peer (1) } : PPP Peer
   40) Peer ID : 5
5) Startup Timer Value { Time in Seconds after
   System Startup to wait
   for Primary to come up
   before activating
   Backup } : 300
6) Activate Timer Value { Time in Seconds after
   Primary Failure to
   activate Backup } : 10
7) Restore Timer Value { Time in Seconds after
   Primary restoral to
   disable Backup } : 10
(save/quit/cancel)
:
```

4. Once you are satisfied with the values, enter the **save** command, followed by **<return>**.

```
: save <return>
```

The following will display:

```
Backup Service Index 1 created.
/Interface/backup %
```

## Field Descriptions

The following section explains the fields and their corresponding values.

### 1) Description

Enter a description of the backup service in this field. Your description may consist of a maximum of 30 ASCII characters.

### 2) Admin Status

The available options for this field are **Enable** and **Disable**. **Enable** allows the backup service to operate. **Disable** will render the backup service inoperative without deleting it.

### 3) Primary Type

This field sets the type of entity that will be backed up in the case of network failure. The available options are **Physical Port** and **Frame Relay PVC DLCI**.

#### 4) Backup Type

This field sets the entity type to be used as a backup in the event of primary failure. At this time, the only available backup type is **PPP**.

#### 5) Startup Timer Value

This field sets the time after system startup to wait for the primary entity to come up. If the primary entity fails to come up within the defined time after system startup, the backup entity will be activated. Acceptable values are in the range of 0-65535 seconds. The default value is 300 seconds.

#### 6) Activate Timer Value

This field sets the amount of time that the primary entity must remain in a failed state before the backup entity is activated. Acceptable values are in the range of 0-65535 seconds. The default value is 10 seconds.

#### 7) Restore Timer Value

This field sets the amount of time the primary entity returns and remains in an operational state before the backup entity is deactivated. Acceptable values are in the range of 0-65535 seconds. The default value is 10 seconds.

### Backing Up a Frame Relay PVC

Adding a backup service for a frame relay PVC is basically the same as for a physical port. The only differences are that you must specify Primary Type as **Frame Relay**, and you must specify a DLCI number. To add a backup service for a frame relay PVC:

1. Enter the **bsadd** command with no parameters, followed by **<return>**, as shown below:

```
/Interface/backup % bsa <return>
```

A screen similar to that shown below will be displayed:

```

Adding Backup Service Index          : 2
1) Description                      : Backup 2
2) Admin Status { (E)nabled, (D)isabled } : Enabled
3) Primary Type { Physical Port (1),
   Frame Relay PVC (2) }             : Physical Port
30) Slot                           :
31) Port                           :
4) Backup Type { PPP Peer (1) }      : PPP Peer
40) Peer ID                         :
5) Startup Timer Value { Time in Seconds after
   System Startup to wait
   for Primary to come up
   before activating
   Backup }                          : 300
6) Activate Timer Value { Time in Seconds after
   Primary Failure to
   activate Backup }                 : 10
7) Restore Timer Value { Time in Seconds after
   Primary restoral to
   disable Backup }                  : 10
(save/quit/cancel)                  :

```

2. When you first enter the command, the next unique index is assigned automatically, a default description is created ("Backup" followed by the created index number), and

defaults for primary type, backup type, and all backup timers are created (as shown above).

To backup a frame relay PVC, first change the primary type. Whenever the primary type is changed, the menu will be redisplayed, because different parameters are needed to define the primary type. An example is shown below:

```
: 3=2
1) Description                               : Backup 2
2) Admin Status { (E)nabled, (D)isabled }   : Enabled
3) Primary Type { Physical Port (1),
   Frame Relay PVC (2) }                     : Frame Relay PVC
30) Slot                                     :
31) Port                                     :
32) DLCI                                     :
4) Backup Type { PPP Peer (1) }              : PPP Peer
40) Peer ID                                 :
5) Startup Timer Value { Time in Seconds after
   System Startup to wait
   for Primary to come up
   before activating
   Backup }                                  : 300
6) Activate Timer Value { Time in Seconds after
   Primary Failure to
   activate Backup }                         : 10
7) Restore Timer Value { Time in Seconds after
   Primary restoral to
   disable Backup }                          : 10
(save/quit/cancel)
:
```

To backup a frame relay PVC, specify the slot (**30=x**), port (**31=x**) and DLCI number (**32=x**) of the PVC to be backed up. Next, enter the PPP peer index (which defines ISDN call parameters and PPP parameters). Optionally, you can modify the timer values. Below is an example of backing up the port on slot 3, port 2, PVC DLCI 32 with PPP peer index 1:

```
: 30=3
: 31=2
: 32=32
: 40=1
: ?
1) Description                               : Backup 2
2) Admin Status { (E)nabled, (D)isabled }   : Enabled
3) Primary Type { Physical Port (1),
   Frame Relay PVC (2) }                     : Physical Port
30) Slot                                     : 3
31) Port                                     : 2
32) DLCI                                     : 32
4) Backup Type { PPP Peer (1) }              : PPP Peer
40) Peer ID                                 : 1
5) Startup Timer Value { Time in Seconds after
   System Startup to wait
   for Primary to come up
   before activating
   Backup }                                  : 300
6) Activate Timer Value { Time in Seconds after
   Primary Failure to
   activate Backup }                         : 10
7) Restore Timer Value { Time in Seconds after
   Primary restoral to
   disable Backup }                          : 10
(save/quit/cancel)
:
```

Once you are satisfied with the values, enter the **save** command, followed by **<return>**:

```
: save <return>
```

A screen similar to that shown below will display:

```
Backup Service Index 2 created.
/Interface/backup %
```

## Modifying a Backup Service

With the **bsmodify** command, you can modify:

- A backup for a physical port
- A frame relay PVC.

### Modifying a backup for a Physical Port

To modify a backup service for a physical port:

1. Enter the **bsmodify** command, followed by the index of the Backup service, followed by **<return>**. An example is shown below:

```
/Interface/backup % bsm 1 <return>
```

A screen similar to that shown below will display:

```
Modify configuration for Backup Service Index 1
1) Description                               : Backup 1
2) Admin Status { (E)nabled, (D)isabled }    : Enabled
   Primary Type                             : Physical Port
       Slot                                 : 3
       Port                                : 1
   Backup Type                              : PPP Peer
   Peer ID                                 : 5
5) Startup Timer Value { Time in Seconds after
   System Startup to wait
   for Primary to come up
   before activating
   Backup }                                  : 300
6) Activate Timer Value { Time in Seconds after
   Primary Failure to
   activate Backup }                        : 10
7) Restore Timer Value { Time in Seconds after
   Primary restoral to
   disable Backup }                        : 10
(save/quit/cancel)
:
```

The command works in a manner similar to the **bsadd** command, except the parameters that define the backup service may not be changed. These parameters are the:

- index
- primary type
- primary type slot, port, and dlci
- backup type, and
- peer ID.

Only the description and startup, activate, and restore timer fields may be modified.

2. Once you are satisfied with the values, enter the **save** command, followed by **<return>**, as shown below:

**: save <return>**

A screen similar to that shown below will display:

**Backup Service Index 1 modified.**  
**/Interface/backup %**

### Modifying a Frame Relay PVC Backup Service

To modify a backup service for a frame relay PVC:

1. First, enter the **bsmodify** command, followed by the index of backup service, followed by **<return>**, as shown in the example below:

**/Interface/backup % bsm b2 <return>**

A screen similar to that shown below will display:

1) Description		: Backup 1
2) Admin Status { (E)nabled, (D)isabled }		: Enabled
Primary Type		: Frame Relay PVC
Slot		: 3
Port		: 1
DLCI		: 32
Backup Type		: PPP Peer
Peer ID		: 1
5) Startup Timer Value	{Time in Seconds after System Startup to wait for Primary to come up before activating Backup }	: 300
6) Activate Timer Value	(Time in Seconds after Primary Failure to activate Backup )	: 10
7) Restore Timer Value	{Time in Seconds after Primary restoral to disable Backup }	: 10
(save/quit/cancel)		:

The command functions in a manner similar to the **create** command, except the parameters that define the backup service may not be changed. These parameters are the:

- index
- primary type
- primary type subparameter
- backup type, and
- backup type subparameters.

Only the Description and Timer fields may be modified.

2. Once you are satisfied with the values, enter the **save** command, followed by **<return>** at the prompt, as shown below:

**: save <return>**

A screen similar to that shown below will display:

**Backup Service Index 2 modified.**  
**/Interface/backup %**



## Viewing Backup Service(s) Configurations

With the **bsview** command, you can view the configuration of either all backup services, or a single backup service.

### Viewing the Configurations of All Backup Services

To view the configurations for all backup services, enter the following command, followed by **<return>**, at the prompt:

```
/ Interface/backup % bsv <return>
```

A screen similar to that shown below will display:

#### Backup Table Entries

Idx	Description	Primary Type	Slot/ Port/ DLCI	Bkup Type	Peer Id	Strup Time	Act. Time	Rest. Time
===	=====	=====	=====	=====	=====	=====	=====	=====
1	Backup 1	PHYPORT	3/1	PPP	5	300	10	10
3	Backup of PVC to Chicago	FR PVC	3/1/33	PPP	7	300	0	60

### Viewing the Configuration of a Single Backup Service (bsview Command)

To view the configuration for a single backup service, enter the **bsview** command followed by the index number of the backup service, followed by **<return>**, as shown in the example below:

```
/Interface/backup % bsv 2 <return>
```

A screen similar to that shown below will display:

#### Backup Table Entries

Idx	Description	Primary Type	Slot/ Port/ DLCI	Bkup Type	Peer Id	Strup Time	Act. Time	Rest. Time
===	=====	=====	=====	=====	=====	=====	=====	=====
1	Backup 1	Port	3/1/32	Peer	1	300	10	10

## Deleting a Backup Service

Use the **bsdelete** command to delete a backup service. Deleting a backup service will delete the backup service configuration record. If a backup is enabled (e.g. due to the primary entity being down), the backup entity will be brought down (e.g., for ISDN the call will be disconnected).

To delete a backup service, enter the **bsdelete** command followed by the index number of the backup service, followed by **<return>**, as shown in the example below:

```
/ % bsdelete 2 <return>
```

A screen similar to that shown below will display.

```
This will bring down Backup (if up) and delete Backup Service Record
Index                               : 1
Description                         : Backup 1.
Continue? {(Y)es, (N)o} (N)       :
```

Enter **<return>** or **N** (the default value) to cancel the command. Enter **Y** to delete the backup service