DAG Card Quick Start Guide

PN01-13

Introduction

This document is designed to give basic information about installing and setting up your DAG card. For more detailed information on installing and setting up your DAG card, refer to the appropriate DAG Card User Guide.

This document is applicable to all DAG cards except DAG 3.7T and DAG 7.1S.

This document assumes:

- Your DAG card is installed in the appropriate slot of your computer.
- The blue light (FPGA successfully programmed) on the card is lit.
- You have the latest DAG software.
  Before installing the software:
    a. Check the version of the DAG software on the provided CD.
    b. Logon to the Endace support website (https://support.endace.com/).
    c. Check that you have the latest DAG software associated with your DAG card and download the latest software, firmware and documentation if necessary.
- The latest DAG software has been *successfully installed*.
  See the latest *EDM04-01 DAG Software Installation Guide* for details on how to install your DAG software.

After installing the DAG software on Linux

After installing the DAG software on a Linux based system (except FreeBSD), run:

```
daginf
```

If this doesn't return your DAG card information, ensure you have done the following:

1. Update the library cache:
   ```
   ldconfig
   ```
2. Run `dagmem`:
   - If you are using Debian Linux:
     ```
     dagmem dsize=128M
     ```
   - For Red Hat Enterprise Linux:
     ```
     modprobe dagmem dsize=128M
     ```
3. Load the DAG drivers using the following command:
   ```
   dagload
   ```

Refer to *EDM04-01 DAG Software Installation Guide* for more information on the complete installation of DAG software on Linux based systems.

DAG Card Configuration

DAG card configuration is performed using the `dagconfig` tool.

To display the current card configuration, including which firmware is currently loaded, run the following command:

```
dagconfig -dX
```

Where X is the device number of the DAG card you want to configure.

Note:
Extra commands can be aggregated on to the end of `dagconfig`, for example:
`dagconfig -dX default 100`

To configure a DAG card:

1. Connect the DAG card.
2. Set the default card settings.
3. Ensure the required firmware is active.
4. Ensure the DAG card obtains a link.

For specific details see the appropriate DAG Card User Guide.

Connect the DAG Card

To connect the DAG card to the network:

- Insert the SFP/XFP modules and connect the cables.

Note:
Ethernet DAG Cards only work when connected to a full duplex connection. Most Hubs are half duplex, so DAG cards will not work.

Set Default DAG Card Settings

Before configuring the DAG card, Endace recommends that you set the default parameters in the card using the following command:

```
dagconfig -dX default
```

Where X is the device number of the DAG card you want to configure.

Firmware Setup

DAG cards are fitted with an FPGA with a minimum of two firmware images:

- a factory image, and
- a user image

To view your current firmware setup, run the following command:

```
dagrom -dX -x
```

An output similar to the following example displays. This example is from the DAG 4.5G2.

```
user:      dag45g2pci_dsm_v2_3 2vp30ff1152 2008/04/03 18:17:32
factory:   dag45gepci_terf_pci_v2_5 2vp30ff1152 2006/03/08 13:37:08 (active)
```

The word `(active)` indicates which firmware image is currently active.

Programming the FPGA

To program the user image of the FPGA with a new firmware image:

```
dagrom -dX -rvy -f <filename>.bit
```

Where `<filename>` is the required firmware image name.

Selecting the Firmware Image

To select the factory image on the DAG card, type the following command:

```
dagreset -dX
```

To select the user image on the DAG card, type the following command:

```
dagrom -dX -p
```

Obtaining a Link

To check the current link status, run the following command:

```
dagconfig -dX -si
```

The output of this command is useful in determining whether the DAG card is configured correctly and whether the DAG card is receiving traffic. Having a "1" on the Link indicates a connection is present. LOF indicates Loss of Frame and LOS indicates Loss Of Signal.

An example output where a link is NOT established:

```
Port  Link  PLink  RFault  LOF  LOS
  A    0      0       0      1    0
  B    0      0       0      1    0
```

An example output where a link IS established on both Port A and Port B:

```
Port  Link  PLink  RFault  LOF  LOS
  A    1      1       0      0    0
  B    1      1       0      0    0
```

To setup a DAG card, a link must be obtained with your traffic source by configuring:

- Network speed,
- Auto negotiation (for ethernet cards only) and
- Other options.

Network Speed

1. Set the appropriate network speed.

    For ethernet cards, some examples are:

    ```
    dagconfig 1000
    dagconfig 100
    dagconfig 10
    ```

    For SONET cards, some examples are:

    ```
    dagconfig OC3
    dagconfig OC12
    dagconfig OC48
    ```

    Refer to the appropriate DAG Card User Guide to see which speeds are supported in each DAG card.

    The output of dagconfig -dX -si should now be similar to the following:

    ```
    Port  Link  PLink  RFault  LOF  LOS
      A    0      1       0      0    0
      B    0      1       0      0    0
    ```

Auto Negotiation

1. Set auto negotiation using one of the following commands (for ethernet cards only):

    ```
    dagconfig auto_neg
    dagconfig noauto_neg
    ```

    Depending on your card, one of the above would have been set by default. Try the alternate command and check the link status again.

    For details on how and when to use auto_neg and noauto_neg.

Other Options

1. Set other dagconfig options.

    If you still don't have a link on your DAG card, display the other configurable options on your card using the command:

    ```
    dagconfig -dX --help
    ```

    or refer to the appropriate DAG Card User Guide.

Autoneg/noautoneg

This section describes how and when to use the `auto_neg` and `noauto_neg dagconfig` options.

### DAG card connected directly with traffic source

If the traffic source is an *auto_negotiation* device then you should configure the DAG card in to `auto_neg` mode.

If the traffic source is **not** an *auto_negotiation* device then you should configure the DAG Card to `noauto_neg` mode.

Note:
With software release 3.2.1 and later, the link between two auto_negotiation devices automatically negotiate the highest common connection speed for both devices.

DAG card connected via optical tap
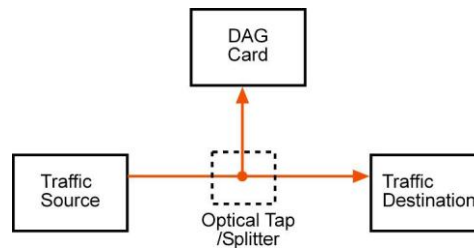
When a DAG card is connected to the traffic source via an optical tap or when the DAG card is connected to a Span port on a device, configure the DAG Card in `noauto_neg` mode.

Technical Support

The latest versions of the software, firmware and documentation are available from our Support website at https://support.endace.com/. Support is offered for any DAG product or software. Endace contact details:

Email:	support@endace.com
USA:	1866 558 4936
UK:	0800 028 9321
Australia:	1800 144 708
New Zealand:	+64 9 366 3442
Website:	https://support.endace.com/

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Version History

Version	Date	Reason
1	September 2008	First release
2	August 2009	Updated for DAG software release 3.4.1. Removed System Requirements and software installation.
3	November 2011	Update branding.