Chapter 30
BGP Communities

30.1 BGP Communities Overview

BGP updates carry a number of path attributes. Some of these, like the **AS_PATH**, are mandatory and appear in every update message sent. Others are optional, and may or may not appear in any given update. Of the optional attributes, two can be specified arbitrarily by administrators to ease configuration. These two attributes are "communities" and "extended communities." Both of these attributes operate by "coloring" routes received in updates where these attributes are present; every router keeps track of the set of communities and extended communities with which a route was learned. The particular communities (or extended communities) with which a route was learned can be used to indicate that a particular set of policies should be applied to those routes.

Note: EXTENDED COMMUNITIES IS AN EXPERIMENTAL AND UNSUPPORTED OPTION. GATED V.9.3.2 CURRENTLY SUPPORTS THE DRAFT-IETF-IDR-BGP-EXT-COMMUNITIES-00 VERSION OF EXTENDED COMMUNITIES.

30.2 BGP Communities and Extended Communities Configurations

The following configuration causes all routes learned from BGP peers in AS 65532 with a community of 100:140 to be installed with a GateD preference of 140, those learned with a community of 100:150 to be installed with a GateD preference of 150, and all other routes learned from BGP peers in AS 65532 to be installed with the default GateD preference for BGP (170).

```
import proto bgp as 65532 comm { comm-split 100 140; } {

    all preference 140;

};

import proto bgp as 65532 comm { comm-split 100 150; } {

    all preference 150;

};

import proto bgp as 65532 {

    all;

};
```

The following causes GateD to export to AS 65532 with the community 100:140 all routes learned from peers in AS 65533, all routes learned from peers in AS 65534 with the community 100:150, and all routes learned from peers in AS 65535 with no additional communities.

```
export proto bgp as 65532 comm-add { comm-split 100 140; } {

    proto bgp as 65533 {
```

```
                all;
        };
    };
    export proto bgp as 65532 comm-add { comm-split 100 150; } {
        proto bgp as 65534 {
                all;
        };
    };
    export proto bgp as 65532 {
        proto bgp as 65535 {
                all;
        };
    };
```

30.3 Syntax

30.3.1 BGP Communities Syntax

The syntax of **comm** is as follows:

```
comm {
    community_list ;
}
# comm-add and comm-delete are used to add and delete communities.

comm-add {
    community_list ;
}

comm-delete {
    community_list ;
}
```
More detailed descriptions of these commands can be found on page 587 of the *Command Reference Guide.*

30.3.2 BGP Extended Communities Syntax

The syntax of **ext-comm** is:

```
ext-comm {
    extended_community_list ;
}
```

The syntax of **ext-comm-add** is:

```
ext-comm-add {
    extended_community_list ;
}
```

The syntax of **ext-comm-delete** is:

ext-comm-delete

   extended_community_list ;

}

More detailed descriptions of these commands can be found on page 587 of the *Command Reference Guide.*