

3. What exactly went wrong?

In previous section we showed how Route Explorer could isolate a routing failure to the prefix and router. In this section we show how to drill-down even further to determine the nature of the failure.

Figure 10 shows a list of all events that were related to the prefix in question. This list can be displayed from Route Explorer's history navigator using the Events button. Selecting a time period just before the outage will display all events from all sources during that time. This list may then be filtered to show only the events concerning the failing prefix. The filter specification appears at the top of the events window.

Time	Router	Operation	Neighbor/Prefix	Attributes	Area
4/10 07:46:12.316217	10.1.12.3 DR	Drop Prefix	10.1.12.0/24	Metric: DOWN; Cause: Pre-mature	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:08:12.076688	10.1.251.6	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:08:12.076688	10.1.251.7	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:08:23.072438	10.1.251.7	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:08:28.524874	10.1.251.6	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:08:47.808942	10.1.251.7	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:08:47.871297	10.1.251.6	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:09:31.999780	10.1.251.7	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:09:32.067481	10.1.251.6	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:09:37.632523	10.1.251.7	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:09:37.671327	10.1.251.6	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:10:09.585517	10.1.251.6	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:10:09.639757	10.1.251.7	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:10:14.990614	10.1.251.6	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:10:15.239357	10.1.251.7	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:10:51.656557	10.1.251.7	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:10:57.012030	10.1.251.6	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:11:02.112737	10.1.251.6	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:11:02.357809	10.1.251.7	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:11:45.060670	10.1.251.6	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:11:45.060670	10.1.251.7	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:11:45.060670	10.1.12.3 DR	Add Prefix	10.1.12.0/24	Metric: 0	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:17:08.967682	10.1.12.3 DR	Drop Prefix	10.1.12.0/24	Metric: DOWN; Cause: Pre-mature	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:17:14.083374	10.1.251.7	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:17:14.855492	10.1.251.6	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:17:57.076594	10.1.251.7	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:17:57.076594	10.1.12.3 DR	Add Prefix	10.1.12.0/24	Metric: 0	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:17:57.080669	10.1.251.6	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:18:02.204272	10.1.251.7	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:18:02.204272	10.1.12.3 DR	Drop Prefix	10.1.12.0/24	Metric: DOWN; Cause: Pre-mature	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:18:03.051488	10.1.251.6	Add Prefix	10.1.12.0/24	Metric: 100	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:18:47.103588	10.1.251.7	Drop Prefix	10.1.12.0/24	Metric: DOWN	DemoEnterpriseAMar03a.ospf/00000001
4/10 09:18:47.103588	10.1.12.3 DR	Add Prefix	10.1.12.0/24	Metric: 0	DemoEnterpriseAMar03a.ospf/00000001

Figure 10

Having thus narrowed to all events concerning failing prefix we note that both routers to which the server network is connected to – 10.1.251.6 and 10.1.251.7 are reporting the prefix flapping. The flap frequency ranges from 5 minutes to 35 minutes. There is a strong indication that this is a switch in the server LAN or a load balancer that is rebooting.

With this detailed knowledge, the routing engineer can discuss the problem with the server maintenance engineers and problem can be fixed without further delay.

HOW TO:

1. Open an X Windows or VNC session to the Route Explorer.
2. Open topology and open History Navigator (see above)
3. Show Events List:
 - a. Click on Event button.
 - b. Select begin and end times for the event list. The event list will be displayed with the first 1000 events in the selected period.
 - c. To see the router or link affected by any particular event, simply click on it in the list. The event will be highlighted in blue/cyan background and the router or link involved will be highlighted in the topology map.