

Title:

CCNP Certification / BSCI Exam Tutorial:    EIGRP Stuck-In-Active Routes

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360

Summary:

Troubleshooting EIGRP SIA routes is a challenge for any networker. Learn the basics for the CCNP exam from Chris Bryant, CCIE #12933.

Keywords:

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Article Body:

Passing the BSCI exam and earning your CCNP is all about knowing the details, and when it comes to EIGRP SIA routes, there are plenty of details to know. A quick check in a search engine for "troubleshoot SIA" will bring up quite a few matches. Troubleshooting SIA routes is very challengin in that there's no one reason they occur.

View the EIGRP topology table with the show ip eigrp topology command, and you'll see a code next to every successor and feasible successor. A popular misconception is that we want these routes to have an "A" next to them - so they're active. That's what we want, right? Active routes sound good, right?

Well, they sound good, but they're not. If a route shows as Active in the EIGRP topology table, that means that DUAL is currently calculating that route, and it's currently unusable. When a route is Passive ("P), that means it's not being recalculated and it's a usable route.

Generally, a route shown as Active is going to be there for a very short period of time by the time you repeat the command, hopefully that Active route has gone Passive. Sometimes that doesn't happen, though, and the route becomes SIA - Stuck In Active.

A route becomes SIA when a query goes unanswered for so long that the neighbor relationship is reset. From experience, I can tell you that troubleshooting SIA routes is more of an art form than a science, but there are four main reasons a route becomes SIA:

The link is unidirectional, so the query can't possibly be answered.

The queried router's resources are unavailable, generally due to high CPU utilization.

The queried router's memory is corrupt or otherwise unable to allow the router to answer the query.

The link between the two routers is of low quality, allowing just enough packets through to keep the neighbor relationship intact, but not good enough to allow the replies through.

To sum it up, routes generally become SIA when a neighbor either doesn't answer a query, or either the query or reply took a wrong turn somewhere. I told you it wasn't the easiest thing to troubleshoot!