BIRD Route Server Daemon Deployment

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LINX

Introduction

LINX provides Route Servers for member Multilateral Peering

Each peering LAN has two Route Servers

Two sites each with two Route Servers

Telecity Sovereign House

Telecity 8&9 Harbour Exchange

One Route Server per LAN per site

All running Quagga

The Problem

Quagga becoming less stable as it scales

Resource hungry

Particularly when converging sessions

When busy BGP keepalives are not processed

Drops more sessions

Spiralling Death Syndrome

Stop and phased restart to recover

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Options We Considered

Quagga - Single RIB

Improved scaling but undesirable behaviour for a Route Server

OpenBGPd

Required a change of platform for full feature support (MD5 authentication)

BIRD

1.1.3 stalled at 200 peers, 26K prefixes

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Why BIRD?

Good multiple RIB support

Part of the design goals

Responsive developers

Scaling issue resolved within 24 hours

Control

CLI remains responsive under load

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What We Did

Deployed BIRD v 1.1.7 for IPv4 peering on rs1.linx.net

This is the busiest of the four Route Servers

Brought live shortly after Midnight

Friday 15th January 2010

Went extremely smoothly

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Did that Help?

YES**!**

BIRD using less resources

Converges rapidly

If a restart is required converges without manual intervention

Performing even better in live environment than lab testing predicted

Active prefixes up from 29K to 37K...

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Resource Usage

Quaqqa
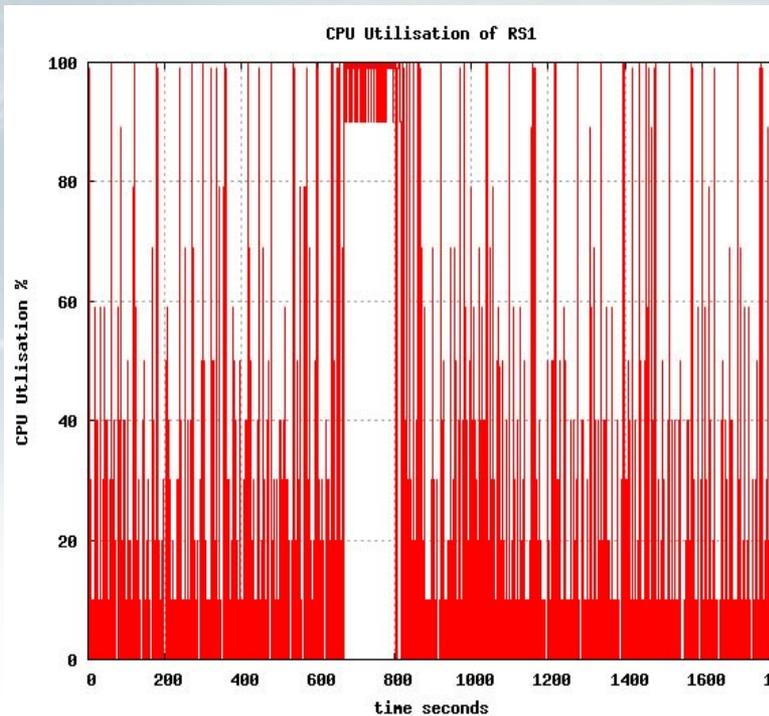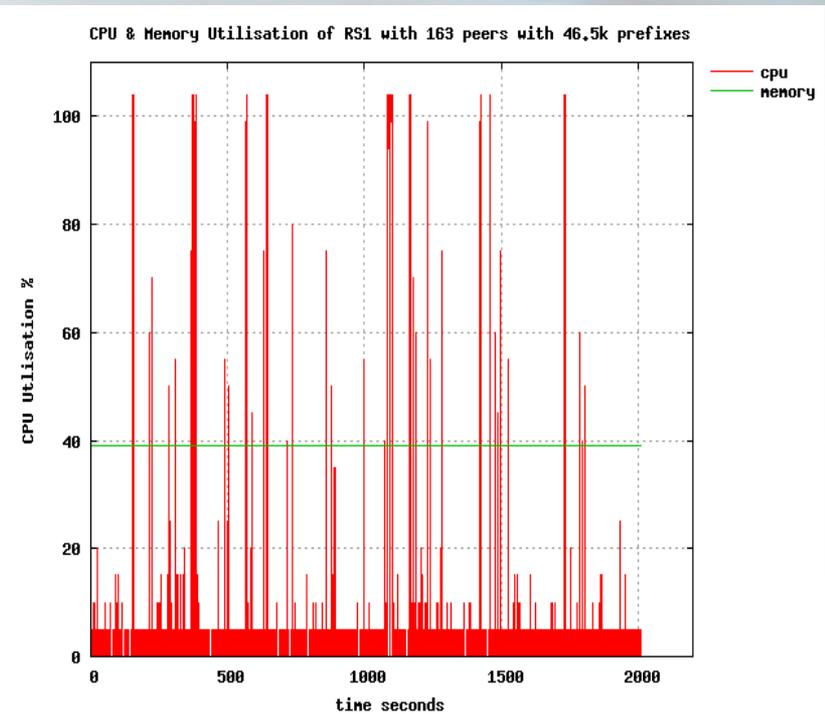
BIRD

What Next

Understand the increase in active prefixes

Possible Quagga issue?

Deploy for IPv6

Currently still using Quagga

Get used to new process for peer changes

Bear with us for a while...

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Longer Term

Collect statistics from within BIRD itself

Enhance Looking Glass to talk to BIRD

Quagga improvements

Euro-IX initiative

Use current dual platform to evaluate both Route Server daemons

Decide whether to continue with dual platform or migrate to the best performer

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