

Request for Quotation
Router Migration,
Configuration Cleanup & Documentation

OARC Engineering

2022/09/15

Background

OARC has two physical locations with our own routing infrastructure: Hurricane Electric's FMT2 facility in Fremont, California, and as a guest of the Canadian Internet Registration Authority in Ottawa, Ontario. The routing configurations at these two locations have been subject to a certain amount of "bit rot" over the last few years, and we are looking for assistance with cleaning this up, in order to facilitate easier management in the future.

- OARC's main location was physically moved to FMT2 several years ago. This included new upstream transit, new peering, and a renumbering of the network. In the interests of minimal down time and minimizing work hours, some of these changes received less attention than would have been ideal. For example, some peering configurations appear to have been left in place even though the peers are not present at the new location.
- There are a number of ACLs in the Fremont config which reference third party networks (neither our network nor our upstream) but do not have appropriate annotations or documentation to indicate who they are expected to belong to, or why they are listed in our ACLs.
- The router at the Ottawa location is intended to be running full BGP with our upstream, but due to memory limitations of the current router it is currently configured with a static default route.

Replacement routers have been acquired for both locations. The outgoing routers both run IOS-XE, and the new routers run IOS-XR.

1 Required Work

OARC is seeking an external contractor to review the current configurations of both routers and:

- identify unnecessary configuration
- in consultation with OARC staff, document peering configurations and ACLs that in use and relevant
- migrate relevant configuration from the old IOS-XE configs to the new IOS-XR configs
- recommend and implement missing best practices and other potential improvements in the existing configuration
- be on hand during the cut-over from the old routers to the new, to assist with troubleshooting if necessary

We anticipate this work will take less than 80 hours to complete. Work is to begin as soon as the selected contractor is available. We expect the work to be complete within a month of commencement of work.

This work can be done remotely, so the contractor's location is not a factor.

1.1 Fremont

This location has a single upstream transit connection and a connection to one of two local IXPs.

As mentioned in the background, the router here has peering configuration and ACLs which are not well documented. Some continue to be useful, while others are of unknown status. These need to be identified and documented, and either abandoned or migrated to the new configuration.

This location currently provides connectivity to one downstream "guest" network, and we would like recommendations for any changes we should make to manage the configuration of this ISP relationship better. There is an open invitation to our member organizations to host equipment with us at this location; although this is not often taken advantage of, we would like to be well prepared should it become more popular.

We intend to add an additional transit connection, and a connection to a second IXP once the new router is in place. A quote including the implementation of these elements of the configuration would be welcome, but is not required.

1.2 Ottawa

This location has a single upstream transit connection.

The Ottawa location was recently migrated between data centres, and so the config, as it stands, is fairly well cleaned up. However, memory limitations did not allow us to implement a BGP configuration here, and the router is temporarily using a static routing setup.

The new router will need to be configured to do full BGP with our upstream.

We intend to add a connection to the local IXP after the new router is in place. A quote including this configuration along with a peering session with the local route server would be welcome, but is not required.

2 Compensation

Compensation for this work will include time worked at the agreed-upon rate. OARC will cover reasonable pre-approved expenses related to the completion of this work.

Submitting a Quote

Please submit questions, proposals, and/or quotes to jobs@dns-oarc.net. Please include your relevant experience, availability, and desired rate.

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