

Engineering Design Specification:

«Rpats»TPIA\_«Client»\_Bandwidth\_Update «NewGig»x«NewMB»Mb

(Network Planning & Engineering-IP Core)

|  |  |
| --- | --- |
| **Project Number:** | «Rpats» |
| **Project Name:** | TPIA\_«Client»\_Bandwidth Upgrade «NewGig»x«NewMB»Mb |
| **Project Type:** | Logical |
| **Status:** | Draft |
| **Priority:** | High |
| **CA Number:** | «CANum» |
| **CA Approval Date:** | N/A |
| **Oracle/OTL Project Number:** | «Oracle» |
| **Related Document Number:** | N/A |
| **Target In Service Date:** | «TISD» |
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**Revision History**

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# 1.0 Executive Summary

**Project Description:**

Rogers provides wholesale access to its cable network for other ISPs to resell. This service is called Third Party Internet Access (TPIA). «Client» is one of the ISPs which will be using this service.

The purpose of this Engineering Plan is to configure the «Router» router to update the ingress rate/egress rate to «NewGig»x«NewMB»Mb**.**This request «Request» to be implemented effective **«TISD»**

# 2.0 Scope Section

## 2.1 Scope of Work

Following are in scope of this plan.

MCN Ops to update the ingress/egress rate on «Client» backhaul link to «NewGig»x«NewMB»Mb. The ingress/egress filter has to be applied on «AEID» on following port/ae/sub-interfaces:

* **«AEID»**

Following ports are part of the «AEID» interface

* «Port»
* «PortNew»

## 2.2 Benefit to the company

*N/A*

## 2.3 Consequences if not done

This project is CRTC mandated and not completing the project on time can lead to legal consequences.

## 2.4 Measurement Criteria

This project is deemed completed once the ingress-rate and egress-rate has been applied to all the «Client» Backhaul links.

## 2.5 Acceptance Summary Checklist

*N/A*

# 3.0 Financial Section

## 3.1 General Information

|  |  |
| --- | --- |
| **CA Name and Number:** | «CAName» «CANum» |
| **Oracle Number(s):** | «Oracle» |
| **RPATS/Project #:** | «Rpats» |
| **OPEX:** | N/A |

## 

## 3.2 Inter-company/department Charges (if applicable)

*N/A*

## 3.3 Bill of Materials

*N/A*

## 3.4 OPEX

*N/A*

# 4.0 Technical Section

## 4.1 Solution Overview

«Overview»

### 4.1.2 Locations

Note: logical changes only on all sites

|  |  |  |
| --- | --- | --- |
| **Site Name** | **Site Address** | **Site Owner** |
| «CILI» | «Address» | «Site» |

## 4.2 Platform Specifications

«Router» «Platform»

### 4.2.2 Physical Network Connections

*N/A*

### 4.2.3 Logical Network Connections

*N/A*

### 4.2.4 Network Management

*N/A*

## 4.2.5 Network Timing

*N/A*

### 4.2.6 Operating System

20.4R2-S1.6

### 4.2.7 Support Services

*N/A*

## 4.2.8 Performance and Fault Management

*N/A*

## 4.3 Configuration Details

See Section 5.4

## 4.4 End to End Impact Assessment

### 4.4.1 Impact Classification

|  |  |
| --- | --- |
| **Service Impact (None, Degraded, Outage) \*:** | None |
| **Network Impact (None, Degraded, Threatened, Outage) \*:** | None |
| **Customer Impact (Small, Medium, Large, Extensive) \*:** | Small |
| **Project Complexity (Low, Medium, High)** | Low |

### 4.4.2 Impacted Network Elements and Services and Locations

\*Project implementation date TBD by project manager and operations based on resource availability

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Potential Maintenance Windows Required** | | | | | | | | | | | |
| **REGION/Site/Network Element** | **Impacted Services** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| «Region» | TPIA |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |
| --- | --- |
| **Total Potential Maintenance Windows Required** (should be the sum of the above) | «Windows» |

### 

### 4.4.3 Teams Involved in The Change Implementation

IP Edge Operations

### 4.4.4 Changes to the existing IP and Service Flows

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Yes** |  | **No** |

### 4.4.5 Detailed Impact Assessment

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Yes** |  | **No** |

## 4.5 Technical Pre-requisites

*N/A*

## 4.6 Technical Co-requisites

*N/A*

## 4.7 Potential CBU Impacts/Risks

**None**

## 4.8 IP Flow -- Security

*N/A*

## 4.9 Testing

### 4.9.1 Testing to be executed

Verify that ingress/egress filter has been correctly applied on all the logical subinterfaces of «Client».

### 4.9.2 Tools & Test Equipment Required

*N/A*

# 5.0 Execution section

## 5.1 Timing

|  |  |
| --- | --- |
| **Customer Requested Due Date** | «TISD» |
| **Anticipated Completion Date** | «TISD» |

## 5.2 Project Dependencies

|  |  |  |
| --- | --- | --- |
| **Project #** | **Project Name** | **Dependency** |
| «Rpats» | «DName» | «DDescrip» |
|  |  |  |

## 5.3 Migration, Decommissioning and Redeployment Activities

*N/A*

## 5.4 Sequencing and High Level steps

**Pre check:** MCN Ops will verify the current policer on «Router»

show policer | match < policer name>

show policer | match PLR-10G-«OldMB»M

**Step 1:** There is one logical AE link to the customer with multiple physical links. The bandwidth is applied on the logical link. MCN Ops to verify if the «Router» has already been configured with bandwidth filter policy **PLR-10G-«BWCalc»M** **on the AE interface.** If it is not configured, configure as follows;

Following configuration is based on (number of interphases on a line card) X (bandwidth)

#####################################

### CALCULATION ####

“Bandwidth for AE link” = (number of physical links) x (bandwidth per link)

=«Links» x «NewMB»Mb =**«BWCalc»Mb**

burst-size-limit = “Bandwidth for AE link” x 0.02/8

= «Links» x «NewMB»M x 0.02 /8 = **«BurstCalc»Kbytes**

changing from 5ms to 20ms

#####################################

set firewall policer <name of the policer> if-exceeding bandwidth-limit < bandwidth-limit >

set firewall policer <name of the policer> if-exceeding burst-size-limit < burst-size-limit >

set firewall policer <name of the policer> then discard

Sample config, please do not copy and paste (**This policer may be already configured on the router**)

set firewall policer PLR-10G-«NewMB»M if-exceeding bandwidth-limit «BWCalc»M

set firewall policer PLR-10G-«NewMB»M if-exceeding burst-size-limit «BurstCalc»K

set firewall policer PLR-10G-«NewMB»M then discard

**Step 2:** MCN Ops to update the ingress/egress rate to «NewGig»x«NewMB»Mb **on the «AEID» interface**. The ingress/egress filter has to be applied on the following interfaces/ae/sub-interfaces of «Router» for each Phub**.**

* **«AEID»** TO\_«Client»

Following ports are part of the «AEID» interface (no configuration will be applied on the physical interface)

* «Port»
* «PortNew»

! «Router» router configuration

!ingress/egrees bandwidth «NewGig»x«NewMB»Mb («AEID») to each logical interface of «Client»

! Find the interface and unit# from the existing configuration of «Client»

set interfaces <interface#> unit <unit#> family inet policer input PLR-10G-«NewMB»M

attached sample config, please do not copy and paste:



**Post check:** MCN Ops will verify the current policer on «Router»

show policer | match < policer name>

show policer | match PLR-10G-«NewMB»Mb

## 5.5 Regulatory Codes/Third Party Requirements

### 5.5.1 Space and Power (as applicable)

*N/A*

### 5.5.2 Fibre agreements (as applicable)

*N/A*

### 5.5.3 Leased Facility agreements (as applicable)

*N/A*

## 5.6 Coordination Contacts

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Role** | **Company** | **Contact Number** |
| «CName» | «CTeam» | Rogers | «CNum» |
|  |  |  |  |
|  |  |  |  |

# 6. 0 Functional Area and Responsibility

| **Functional Area** | **Responsibility** |
| --- | --- |
| IP Mgmt. & Controls Operations | Configurations of POI router |
|  |  |
|  |  |

# 7.0 Recommended Training

*N/A*

# 8.0 Reference Documents

*N/A*