

## FRGP Charging Algorithms Description – 4/17/24

There are three primary algorithms used to allocate costs to FRGP Participants as follows. Invoices are sent monthly including a detailed spreadsheet explaining costs.

### 1. Shared Costs & Internet2 (I2) Tier:

Log Base 2 Calculator with Participant tier determined by Participant aggregate pipe size and then proportionately allocate costs based on tier. The Tier value is calculated as  $1 + \log_2(\text{SumOfPipeSizes})$ , rounded to tenths, with a minimum value of one for any access smaller than one gigabit/sec. The tiers are as follows:

Pipe Size (Gig)	Tier
1	1
2	2
3	2.6
4	3
4.5	3.2
5	3.3
6	3.6
10	4.3
11	4.5
20	5.3
30	5.9
40	6.3
100	7.6
200	8.6
210	8.7
216	8.8
300	9.2
400	9.6
500	10

The **Shared Costs & I2 Tier** is used for Internet2 and all shared FRGP costs except BiSON and Participant's specific costs and can vary depending on total FRGP Participants, vendor costs and service levels.

## **2. Commodity Tier – eliminated 12/1/15**

### **3. Metropolitan Optical Ethernet (MOE) - eliminated 7/1/2020**

For those Participants that utilize this service, the costs are allocated based on a proportion of the total FRGP committed bandwidth across all MOE pipes based on the Participant Ethernet Virtual Circuit (EVC) committed rate limit.

### **4. Bi-State Optical Network (BiSON) Tier:**

BiSON costs are based on full or half participation. Full BiSON Participants have access to the full protected BiSON ring. Half BiSON Participants have access to a single BiSON path (unprotected). BiSON cost allocations are proportionately based on full participation or half participation allocated share.

### **Per Participant Charges:**

There are some dedicated Participant costs that are allocated directly to the Participant benefitting, e.g. cross connects, colocation space, etc.

For detailed information on participants tier levels and bandwidth usage, see:

[Participant Status and Total Invoiced BW spreadsheet](#)

[Participant's Aggregate 95th percentiles page](#)