SFMIX

Members Meeting

October 27th, 2022

Agenda

- Administration
- Elections / New Board Members
- Past Financial
- New Opex and Capex needs
- Expense budget for 2023
- Price increase
- Proposed budget
- Volunteering
- Ongoing

Introductions

- Board members
  - Matt, Tim, …

- Participants

Thank to Peter for today's venue!

New Board Members

Congrats to:

- Justin Seabrook-Rocha *(Dialpad)*
- Brian David *(KPFA-FM)*
- Peter Helmenstine *(DRT)*

The rest of the board is:

- Matt Peterson (to term out in 2023)
- Tim Pozar (to term out in 2023)

A board meeting will be held soon!

Participants (2019 to present)

2021

- Added new participants:
  - *Atherton Fiber*
  - *Nato Research*
  - *Lynkstate*
  - *PRONSS*
  - *WIZ K.K.*
  - *OLink Cloud*
  - *iFog GmbH*
  - *Aurora Payments*
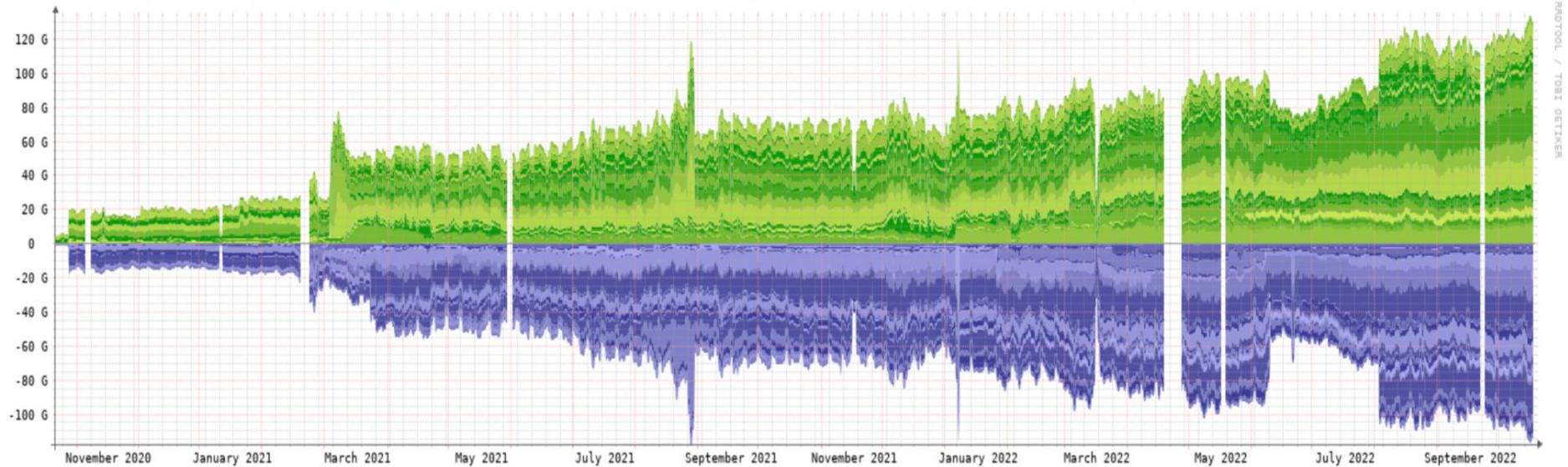 - *Akamai* *(finally!)*
  - *Acronis*

2022

- Added new participants:
  - *Netflix* *(finally!)*
  - Moscone Center
  - Blockinetic

Bandwidth for the Last Two Years

DNS roots

Root	Organization	Originator	Status
D	University of Maryland	PCH	v4 **v6**
E	NASA Ames	PCH	v4 v6
F	Internet Systems Consortium	Internet Systems Consortium	v4 v6
I	Netnod	Netnod	v4 v6
J	Verisign	Verisign	v4 v6
K	RIPE NCC	Roller Network	v4 v6
L	ICANN	Roller Network	v4 v6
M	WIDE / JPRS	WIDE / JPRS	v4 v6

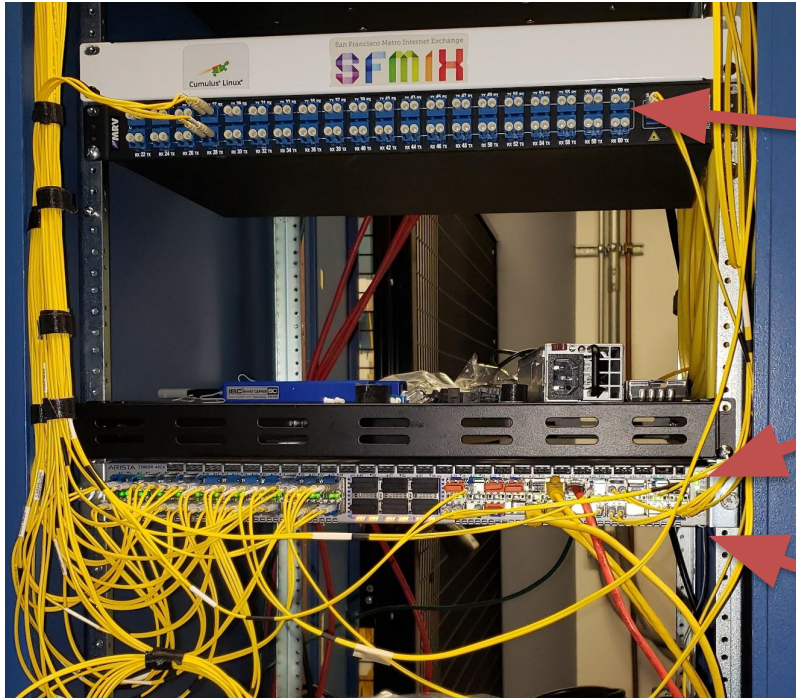# "SFO01" – 365 Main
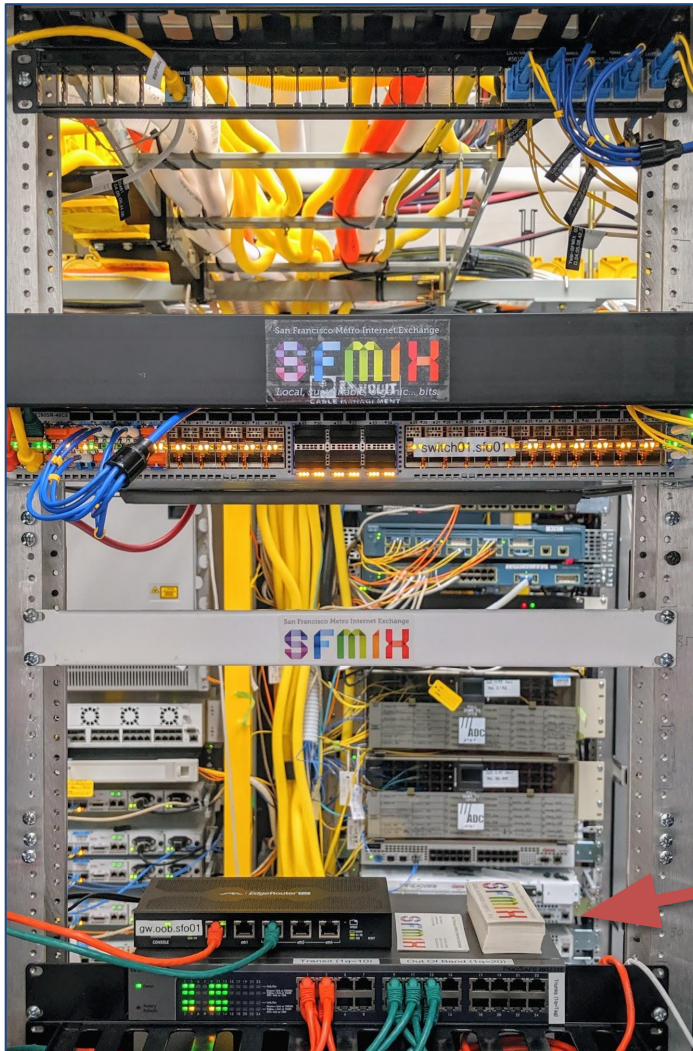
switch01.sfo01
(Arista 7280SR-48C6)

1x10Gbps to 200 Paul

Marketing swag

mgmt-gw.sfo01
(EdgeRouter 5)

"SFO02" – 200 Paul
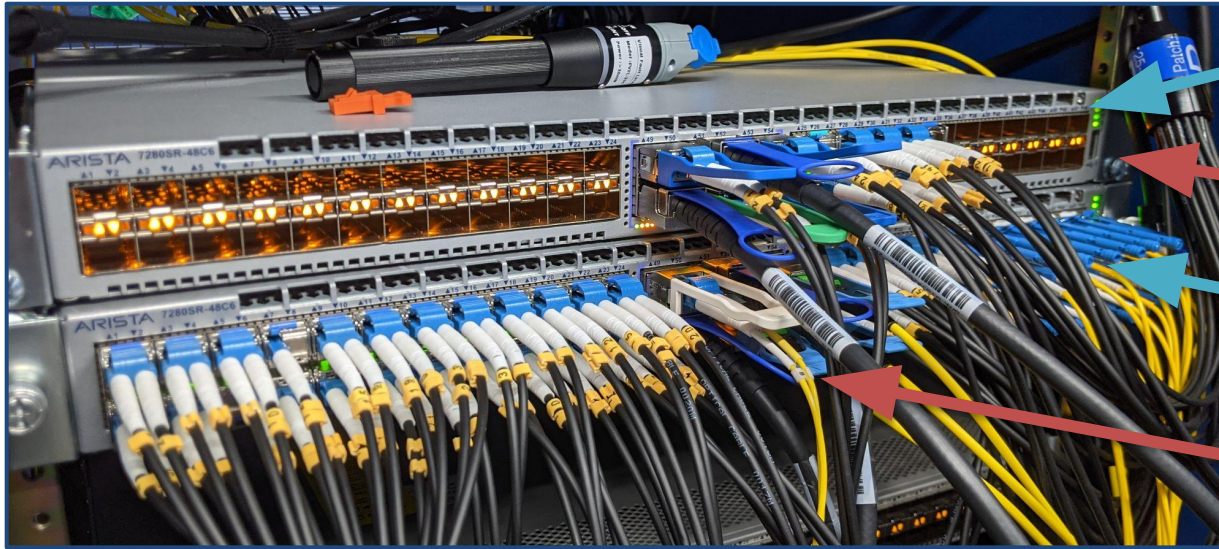
DWDM mux to Wave/Astround

1x10Gbps to 365 Main

switch01.sfo02 (Arista 7280SR-48C6)

1x100Gbps to 48233 Warm Springs

"FMT01" – 48233 Warm Springs

switch02.fmt01
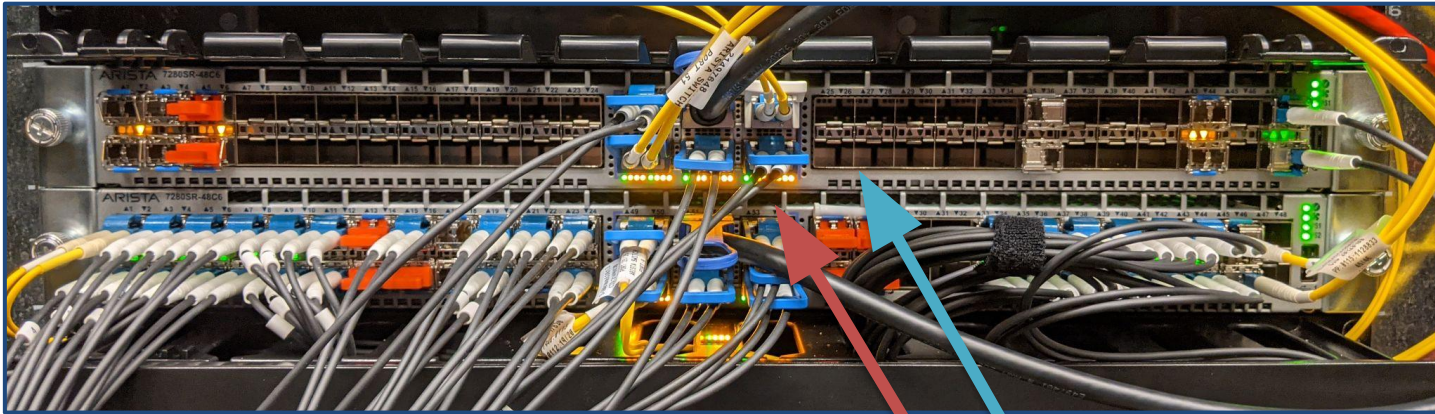(Arista 7280SR-48C6)

12x10Gbps to San Jose

switch01.fmt01
(Arista 7280SR-48C6)

1x100Gbps to San Jose

SFMIX provided
cross-x panels

"SJC01" – 11 Great Oaks Blvd.

switch01.sjc01
(Arista 7280SR-48C6)

1x100Gbps to Fremont

switch02.sjc01
(Arista 7280SR-48C6)

12x10Gbps to Fremont

"SCL01" – 2807 Mission College

switch01.scl01
(Arista 7280SR-48C6)

2x100Gbps to San Jose
(Diverse waves)

Financial

Year	2019	2020	2021	2022 YTD
Income	$57,591	$87,596	$110,774	$115,271
OpEx	$34,713	$25,009	$33,028	$44,937
CapEx	20,786	$40,914	$13,665	$59,298
Bank Balance	$43,230	$38,837	$98,886	$101,804 (Oct 25th)

1x Switch
Optics

2x Switches (1 new + 1 used)
1x Dark Fiber circuit
Optics

1 Switch
1x Dark Fiber
Optics

2x Switches ($59k)
3x Dark Fiber ($2.7k/MRC)
Optics

2021 OpEx Expenditures

- **Supplies** 6.6%
- **Rent** 15.8%
- **Postage & Delivery** 0.5%
- **Income Tax Expe…** 6.6%
- **Hack-a-thons** 0.9%
- **Fees & Licenses** 0.1%
- **Dues & Subscripti…** 18.0%
- **Consulting & Acc…** 2.3%
- **Connectivity Char…** 25.0%
- **Data Center Costs** 20.8%
- **Marketing and Ou…** 1.7%
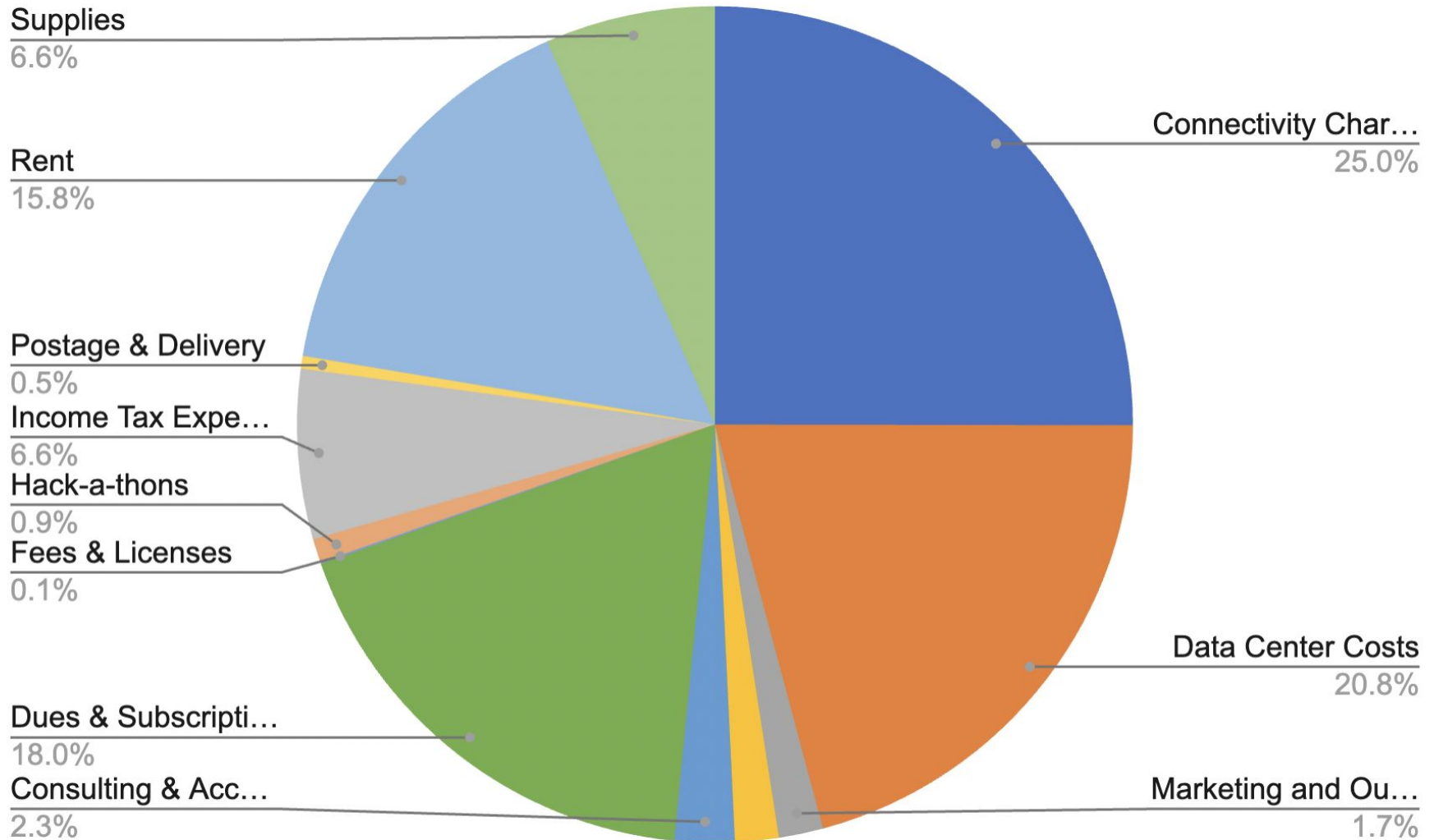
2022 YTD OpEx Expenditures

Small Office Equipment
0.5%
Rent
6.0%
Postage & Delivery
0.0%
Income Tax Expense
11.5%

Fees & Licenses
0.4%
Dues & Subscriptions
3.2%

Consulting & Accounting
5.5%

Bank Service Charges
1.7%
Marketing and Outreach
0.5%

Connectivity Charges
41.6%

Data Center Costs
29.1%
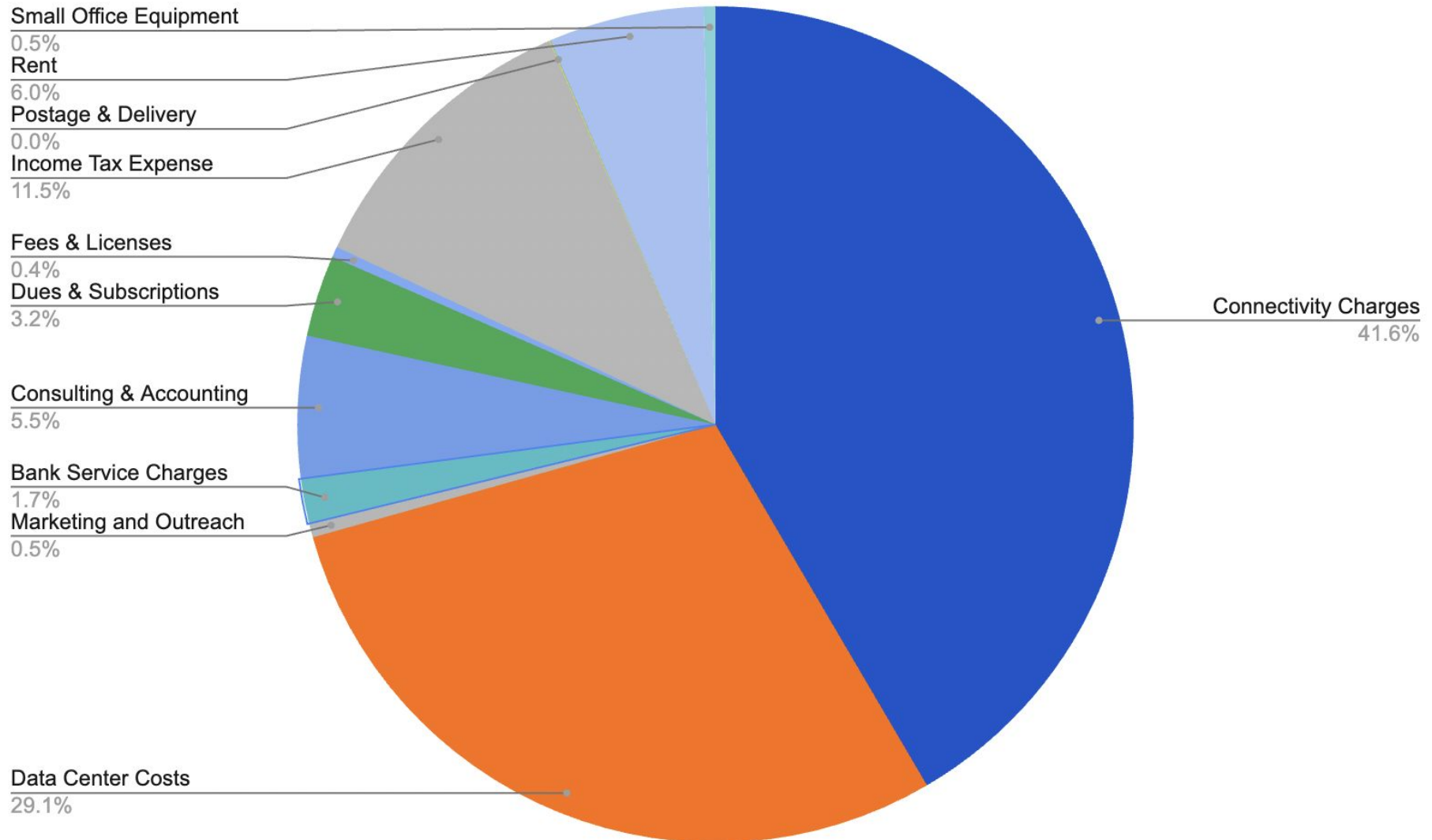
2022 planned activities

- New website
  - WordPress *(externally hosted)*
  - IXP Manager *(matching theme)*

- Automation
  - Contract, Ansible to pull IXP Manager API

- New switches (36x100G QSFP/2x400G)
  - Ordered in Aug '21, arrived Oct '22…
  - Install in Great Oaks & 200 Paul
  - 48x10G 6x100G moves to 2972 Stender Way *(CoreSite/American Tower)*
   Likely migration early December

2023 planned activities

- ARouteServer
  RPKI, IRR, etc based filtering w/ strong BGP traffic engineering communities
  - Already implemented on OpenBGPd
  - Extend to BIRD-based RS

- Order more switches
  - Pricing increased 20% since pandemic
  - Lead times are minimum 1yr

Discussion Topics

- Several backbone links constrained
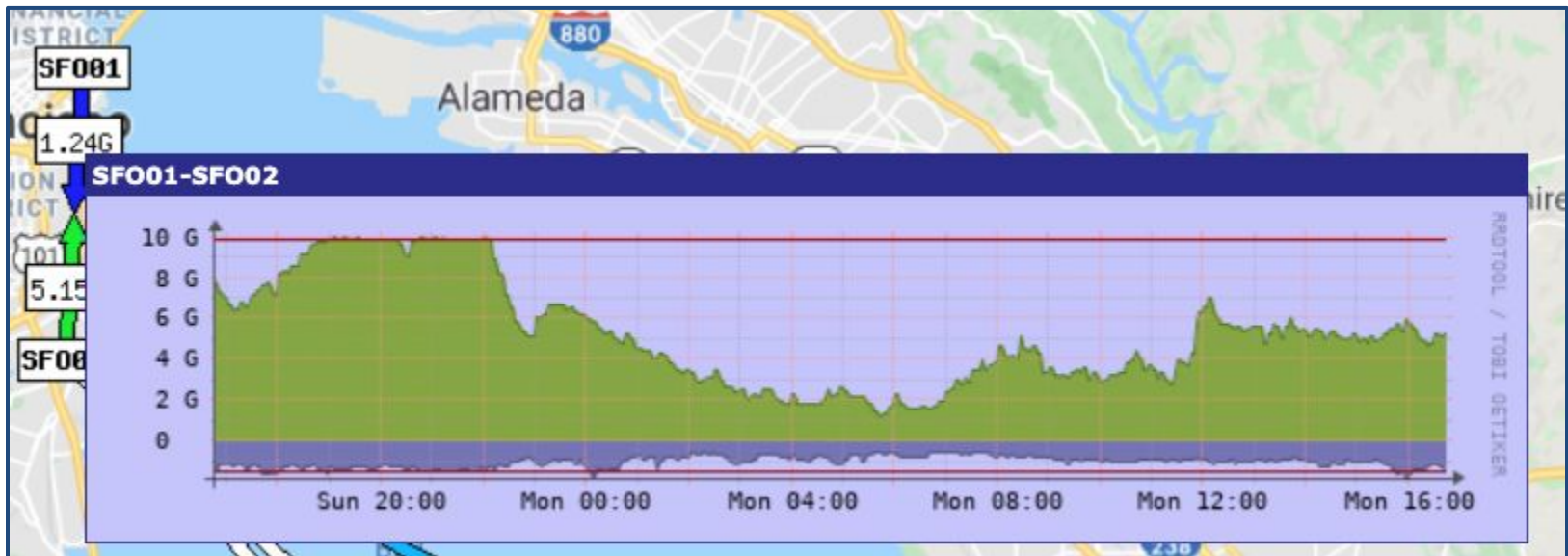
- Pricing per port, update pricing

Network Diagram

WeatherMap
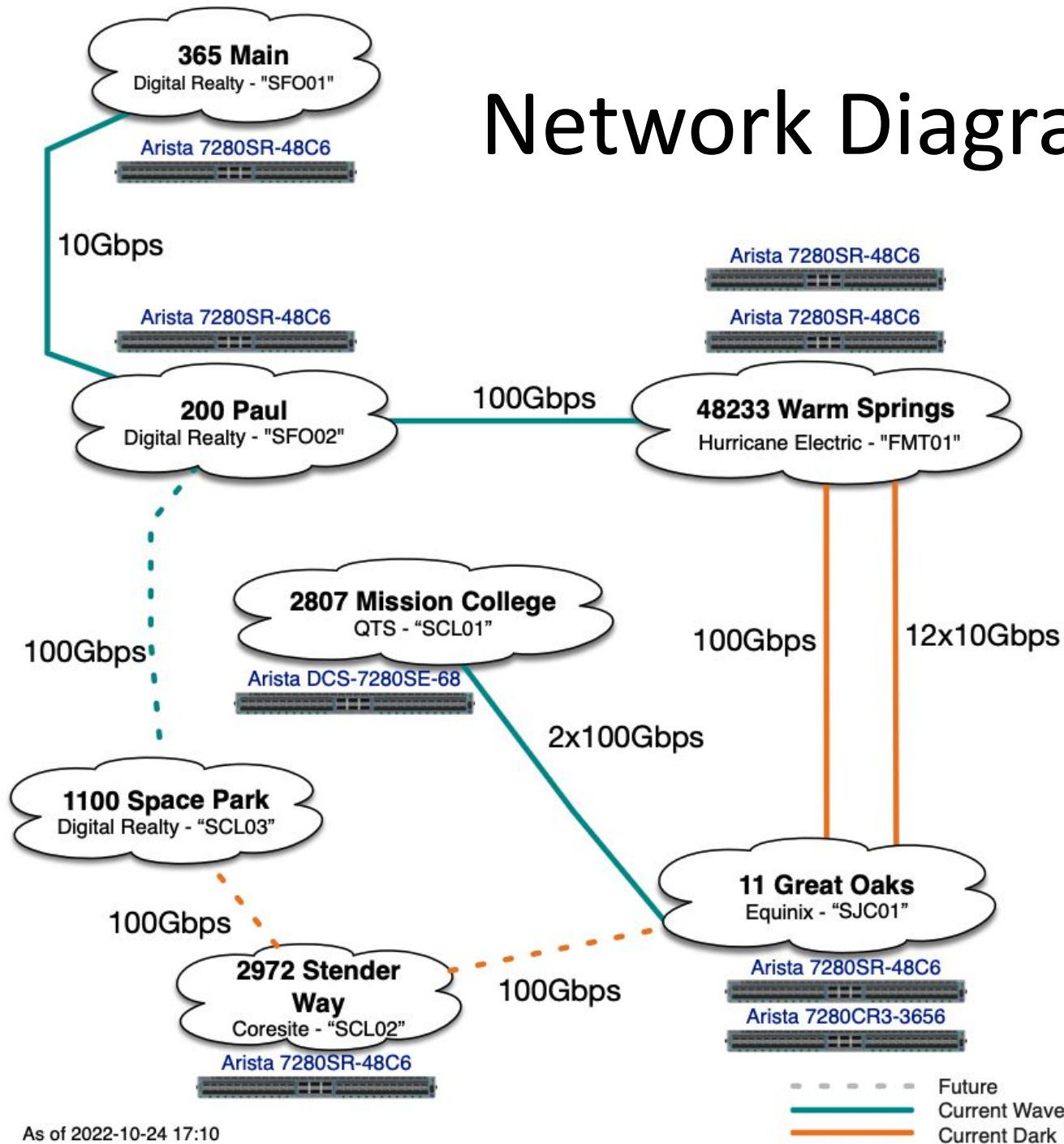
200 Paul to 365 Main

– 10G wave currently donated
– Constraints Webpass desiring 100G port
– Dark has been high (>$3k/MRC), lit 100G (~$3/MRC)

200 Paul to 48233 Warm Springs

– Donated 100G MPLS, peaking at 80G daily
– Too far for dark fiber w/o re-generation site
– 100G wave down to Santa Clara $0 signed, but
  delayed for unknown time frame *(supply shortage?)*

Typical Monthly OpEx

Expenses	Avg. Month
Bookkeeping	$70.00
CPA	$125.00
ARIN	$41.66
Google Apps	$30.00
1Password	$10.00
PO Box	$16.83
Xero	$30.00
Domain names	$2.50
Website hosting	$25.00
Insurance	$225.00
Optics, patch cables	$850.00
Income Tax	$66.00
Bank/Stripe Fees	$100.00
Data Centers	$1,060.00
Dark Fiber	$2,700.00
Support Renewal	$1,200.00
Total Expenses	$6,551.99

100G optics = $300/each

Does **not** include:

- Swag (t-shirts)
- Hackathon's (lunches)
- CapEx ($20k switches, muxes, 100G ZR optics)
- Automation, IXP Manager

~15 months of run rate, with NO OpEx changes and zero CapEx

Estimation of increased OpEx

- Less volunteer labor, contractors (~8k/one time)
  - New website, IXP Manager, automation

- {minimum} 3 DF circuits ($32k/yr), likely more
  - 365 Main to 200 Paul *(if market rate priced)*

- Possible two 100G waves (~$80k/yr)
  - 11 Great Oaks to 48233 Warm Springs *(exhausted "cheap DWDM mux" capacity)*
  - 11 Great Oaks or Santa Clara to 200 Paul *(complete ring around Bay, nets more redundancy)*

Estimation of CapEx Needs

- Generally every 2.5yrs $60K for new switches, *likely to accelerate in 2023 - as 100G becomes the new 10G*

- Transport for 11GO to WarmSprings. ~100K. *Anyone decommission their Ciena 100G Waveserver kit?*

Collections from Members

In addition to increased overhead, we have $51,616.67 in overdue bills from members. We have been slack in collections and need to start getting more aggressive in reaching out, ACLing BGP, shutting down ports.

Will be more aggressive about multi-year or >3months overdue starting Nov '22

Pricing Changes

# 1G Ports	# 10G Ports	# 100G Ports	Current 1G $	Current 10G $	Current 100G $	Current Total
14	50	13	$13,930	$71,820	$64,935	$150,685

Proposal A
- Per-port, keep current price
- 10G = $1,995
- 100G = $4,995

1G	10G	100G	Total
$13,930	$99,750	$64,935	$178,615

Proposal B
- Per-port, w/ ~50% increase on 10 & 100G only
- 10G = $2,995
- 100G = $7,495

1G	10G	100G	Total
$13,930	$149,750	$97,435	$261,115

EOF