COMMUNITY GRANT
Update

ARIN 53
POWERED BY PARTICIPATION

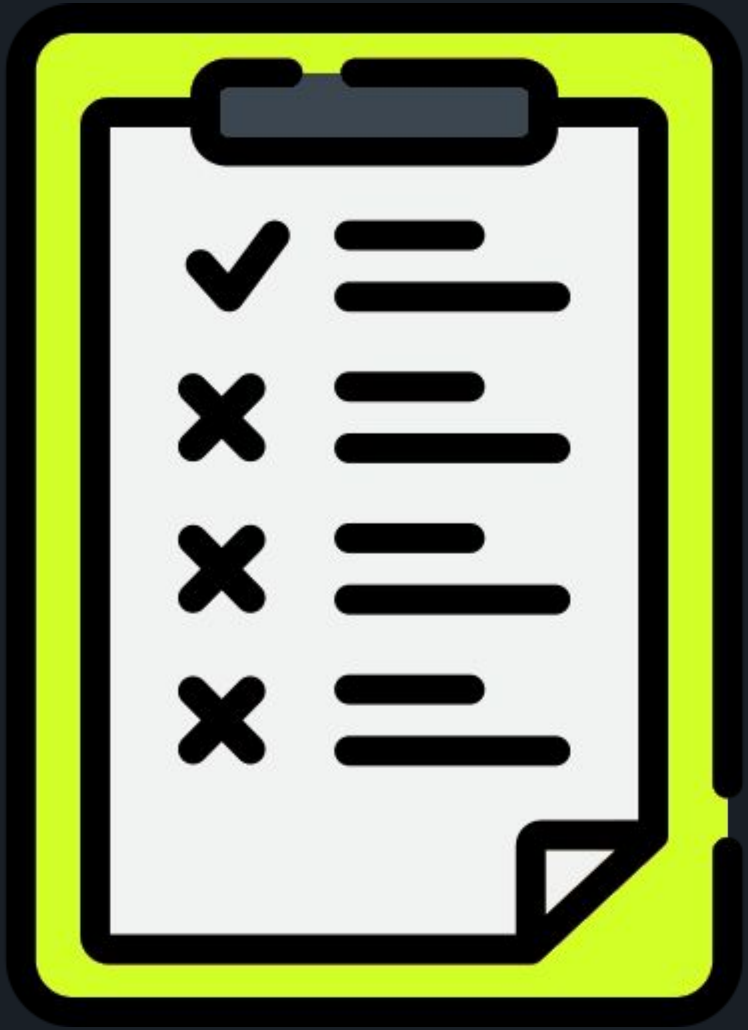
# OPEN SOURCE
# PREFIXCTL && REGCTL

FROM:

fullctl

# Agenda

- Who’s talking?
- What’s a FullCtl?
- Why are we here?
- What is RegCtl?
- What is PrefixCtl?
- What can the do?
- When are they due?

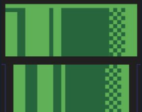


## Chris Grundemann

- 20+ years in networking
- Co-founder of IX-Denver
- OIX Chair
- 8 patents in NetTech
- Co-founder and CEO at FullCtl

## Matt “Grizz” Griswold

- 20+ years in software development
- Co-founder of UIX / ChIX
- PeeringDB Director
- PeeringDB Maintainer
- Co-Founder and CTO at FullCtl



## BGP is hard. We're here to change that.

FullCtl was founded in 2022 with a mission to make secure interconnection possible for everyone everywhere through information sharing and advanced automation.

>> fullctl.com

fullctl

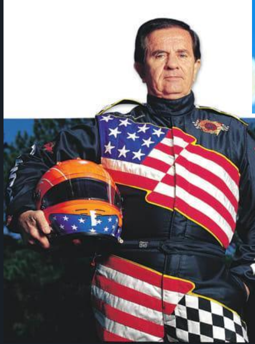
# But why are you talking???

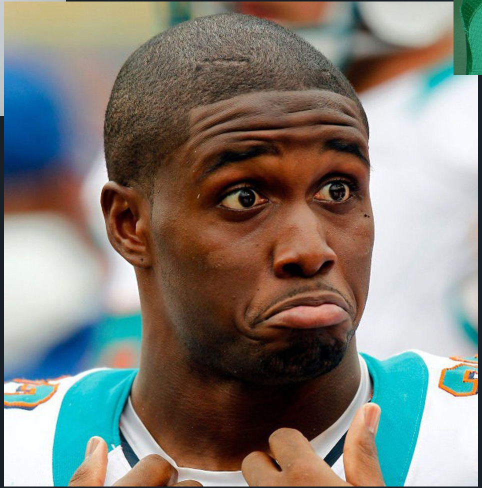
# But why are you talking???

FullCtl is a 2023 ARIN Community Grant Recipient!

Our grant is funding the development of open-source software: PrefixCtl & RegCtl

# RegCtl





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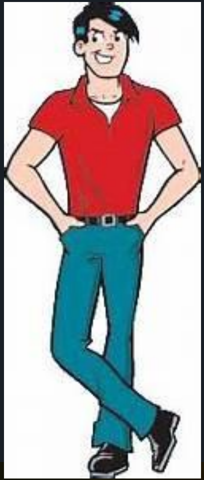


No, not that Reg…

# RegCtl = Registration Control

Built to provide reliable, standardized output of registration data

- RDAP: ASN, IP, Domain, Entity
- RoA: ASN, IP

# The problem(s) with registration data

Dissimilar Data Formatting

- Each RIR seems to choose their own data schema
- Even after years of work in the IETF, no agreement

Change Happens

- RPKI servers down?
- Changes made at RIRs without concern for downstream effects

RoA data affected also...

- Remember that RPKI server issue?
- Fails open (default allow)

# RegCtl to the rescue

Consistent, normalized registration data

# RegCtl specifics

Open source project

- **You** help us define the standard schema
- We release the code to the community

# RegCtl (schema) demo

Technical:

- Written in Python
- Leverages OpenAPI 3.1

Take a look:

- https://regctl.dev8.20c.com/docs/

# RegCtl

Your solution for standardized and reliable RDAP and RoA information.

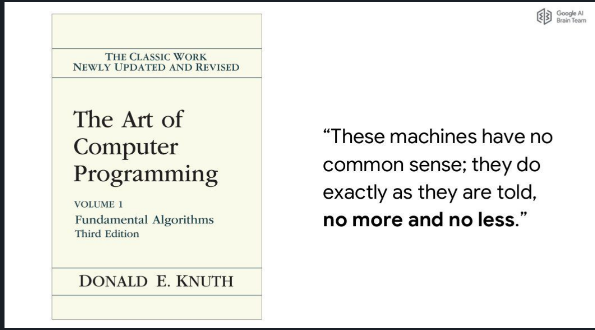
# But wait… there’s More!

# PrefixCtl

# The problem(s) with registration data **access**

## Not contextualized

- Updates fail with no feedback
- Queries provide “no less, no more”



Google AI
Brain Team

THE CLASSIC WORK
NEWLY UPDATED AND REVISED

The Art of
Computer
Programming

VOLUME 1
Fundamental Algorithms
Third Edition

DONALD E. KNUTH

“These machines have no common sense; they do exactly as they are told, **no more and no less.**”

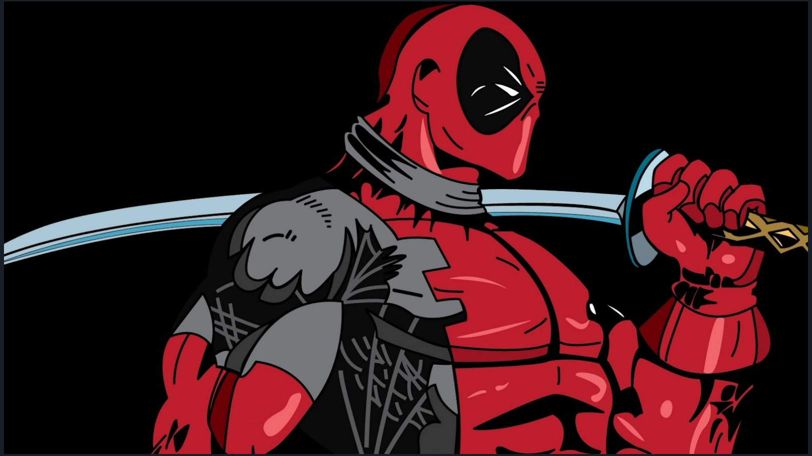
## Not available

- Rate limits are hostile to debugging
- Information is often stale

# PrefixCtl to the rescue

Prefix sets with additional context

- Include whois, IRR, and routing data
- RDAP data complemented with additional sources

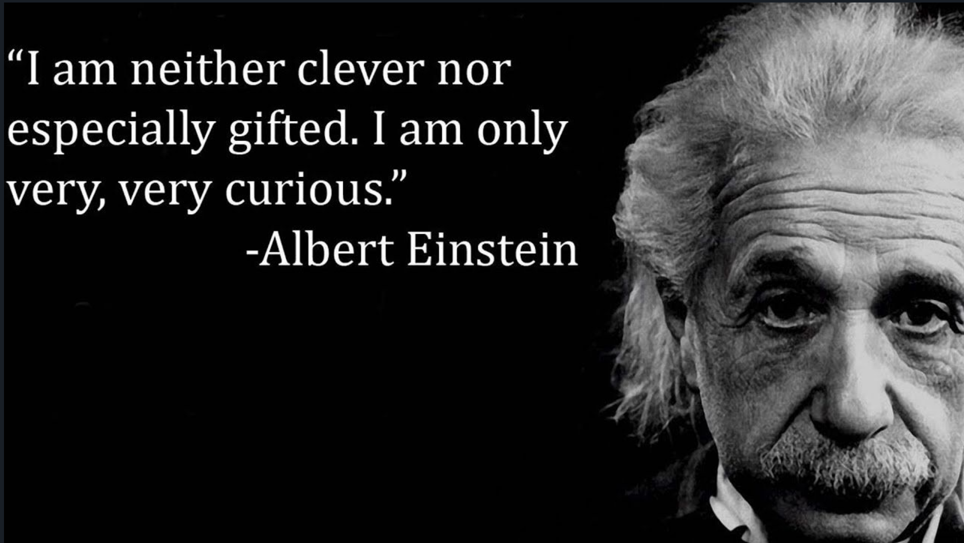


# Operators have questions

- Who is responsible for this resource?
- What is the status of this resource across all RIRs?
- Are there any suballocations on this prefix?

# RegCtl + PrefixCtl are here to provide the answers

- Cross RIR queries
- Recursive queries
- Enriched data set



“I am neither clever nor especially gifted. I am only very, very curious.”

-Albert Einstein

# RegCtl + PrefixCtl

Your solution for standardized, normalized, and contextualized RDAP and RoA information management.

# Isn’t this supposed to be a Community Grant update???

Yeah, but we spent all the money…

Only

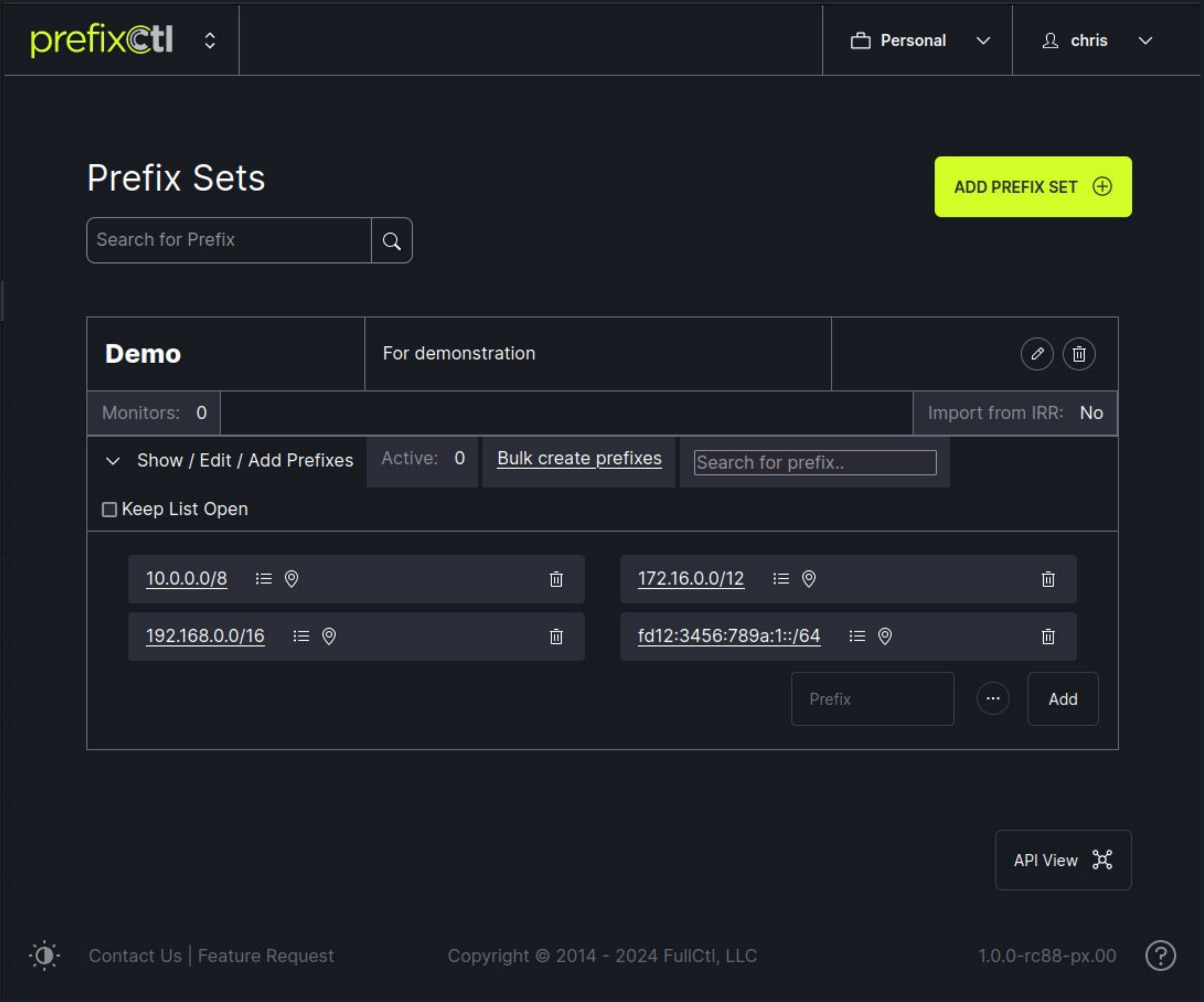
Kidding

# RegCtl

- Coming: Soon
- Requires: PrefixCtl
- ETA: September 2024

# PrefixCtl

- Available: Now!
- Enables: RegCtl++
- Code: github.com/fullctl/prefixctl



## Prefix Sets

**Demo** For demonstration

Monitors: 0

Import from IRR: No

Active: 0

□ Keep List Open

10.0.0.0/8

172.16.0.0/12

192.168.0.0/16

fd12:3456:789a:1::/64

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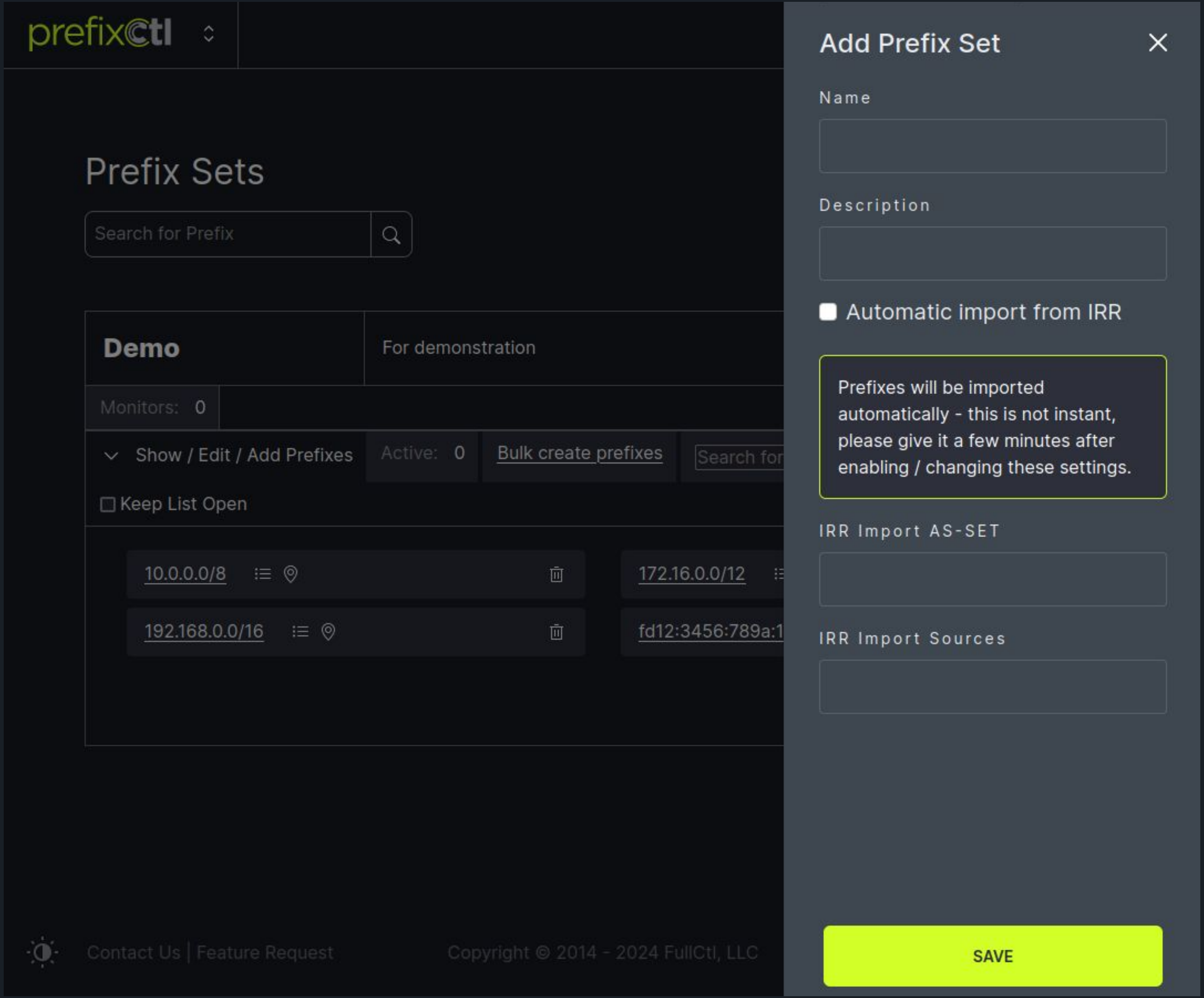
1.0.0-rc88-px.00



prefixctl

Prefix Sets

Search for Prefix

**Demo** | For demonstration

Monitors: 0

Show / Edit / Add Prefixes | Active: 0 | Bulk create prefixes | Search for

□ Keep List Open

10.0.0.0/8

172.16.0.0/12

192.168.0.0/16

fd12:3456:789a:1

Contact Us | Feature Request

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## Add Prefix Set

Name

Description

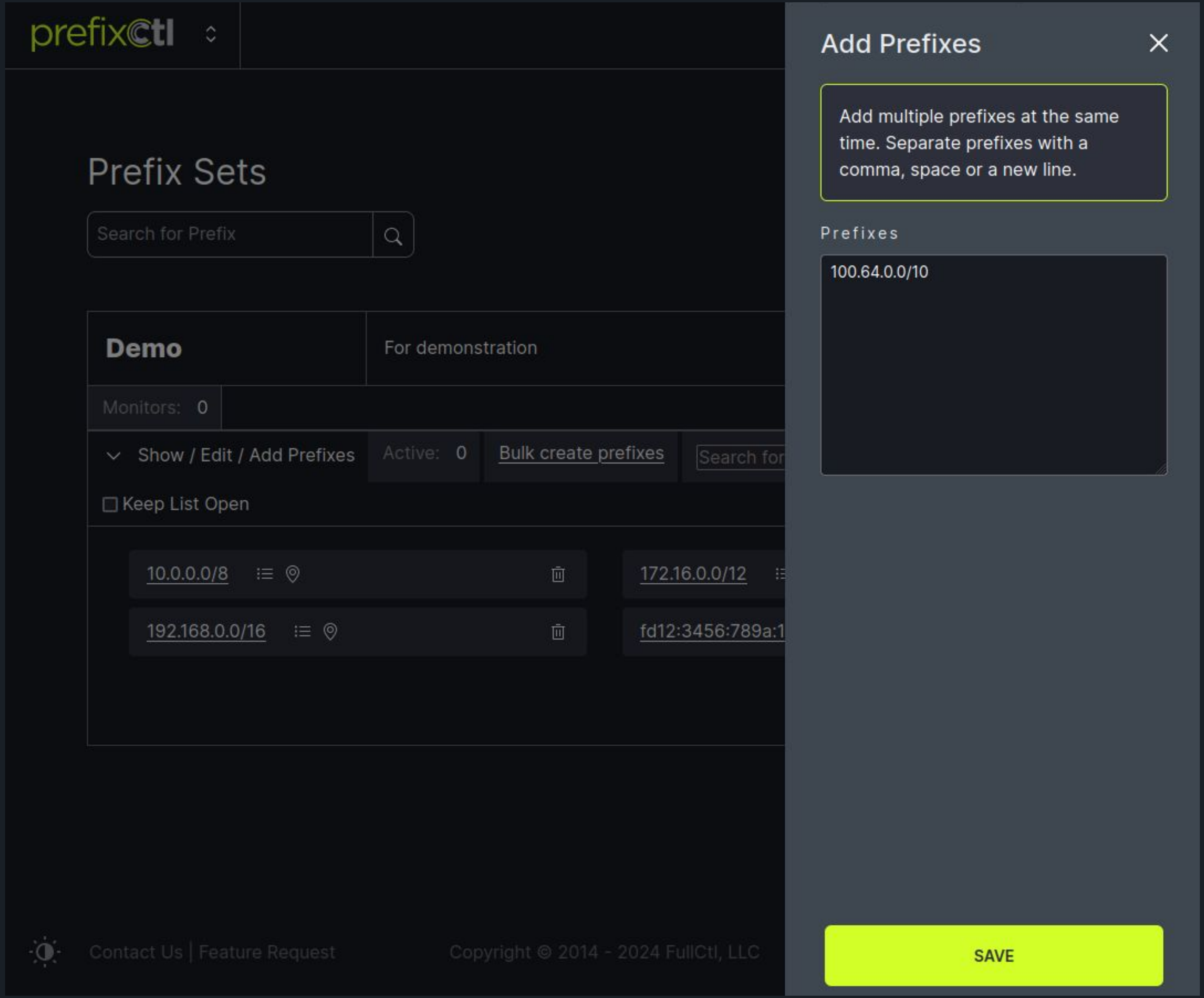
□ Automatic import from IRR

Prefixes will be imported automatically - this is not instant, please give it a few minutes after enabling / changing these settings.

IRR Import AS-SET

IRR Import Sources

SAVE



## Prefix Sets

**Demo**

For demonstration

Monitors: 0

Show / Edit / Add Prefixes

Active: 0

10.0.0.0/8

172.16.0.0/12

192.168.0.0/16

fd12:3456:789a:1

## Add Prefixes

Add multiple prefixes at the same time. Separate prefixes with a comma, space or a new line.

Prefixes

100.64.0.0/10

# PrefixCtl: What is it good for?

- Foundation for RegCtl
- Repository (db) of prefix data
- Extensible metadata framework
- API into that data!
- Ideas:
  - Whowas
  - BGP Monitoring
  - Reputation Monitoring
  - So many monitors…

# Thanks!

Questions?
Chris at FullCtl dot Com

fullctl