fullctl

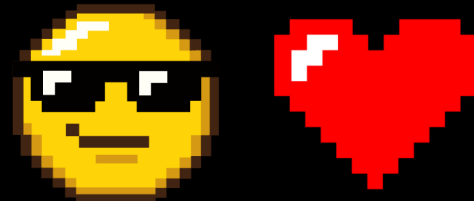## Networking is Hard. We're here to change that.

😎 ❤️

FullCtl is an intent based network management platform built from the ground up to take the complexity out of modern network operations.

UNLEASH THE POWER OF YOUR NETWORK

FullCtl removes all the complexity and complication of manually configuring and operating IP & Ethernet networks by applying the principles of NetDevOps, intent based networking (IBN), and infrastructure as code (IaC) through a set of modern, microservices based applications.

https://github.com/fullctl

ixCtl — Automation platform purpose built for internet exchange operators

peerCtl — Interconnection automation and workflow management for network operators

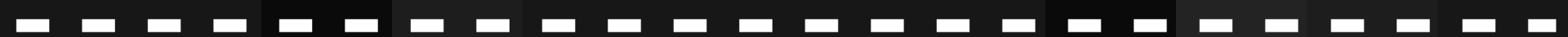**prefixCtl** — Managing and monitoring IRR and ROA information needed in BGP routing

deviceCtl — Network device data management with version control

aaaCtl — Universal, enterprise grade RBAC (role based access control) & SSO

CUSTOM BUILT AUTOMATION SOLUTIONS

netdevops

The FullCtl team have deep experience providing the needed tools and training to enable and empower your NetDevOps practice.
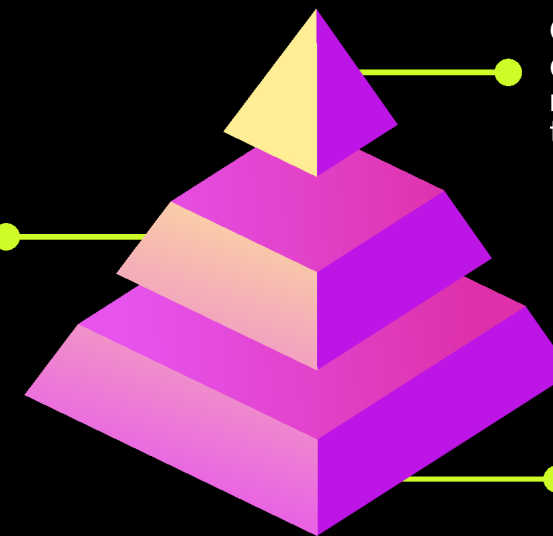
| Infrastructure as code (IaC)	Constant improvement, constant development (CI/CD)	Software development life cycles (SDLC)

We are experts at building and integrating the needed tools to turn your network into a modern, intent based network (IBN).

Operational Toolkit
Observability, monitoring, reporting & troubleshooting

Configuration & Validation Engine
Device (function) state management, aka orchestration & automation

Sources of Truth
Modularized configuration templates and all specific data
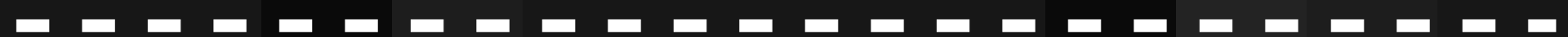
fullctl

For Engineers, By Engineers

One of our great strengths comes from our decades as engineers, in the trenches making networks work. This experience informs everything we do. We're here to help engineers do their jobs better, faster, stronger, and more securely. Our job is to augment the limited number of available experts, allowing them to continually do more and more.
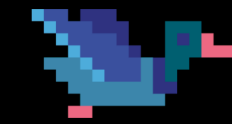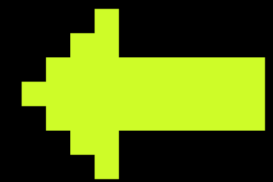
Whether you run a full-service CSP (cloud service provider) or a more specialized web or application hosting provider; your ability to deliver on your customer promise, and to maintain and grow your reputation is fundamentally dependent on the performance and reliability of your network.

THIS LEAVES YOU WORRIED, ABOUT:

- Security Threats and DDoS attacks
- Downtime and Reliability
- Scalability Challenges
- Performance Issues
- Cost Management
- Network Complexity
- Incident Response and Recovery
- Vendor and Service Provider Management
- Bandwidth and Traffic Management
- Technological Changes
- Customer Expectations
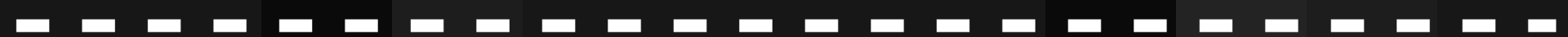
WHAT IF YOU COULD SOLVE ALL OF THIS?

For less than the cost of a single network architect's salary you can have:

- The experience and expertise of a global team of over a dozen domain experts in network architecture, network operations, software development, systems engineering, and DevOps practices
- A network operations center (NOC) providing monitoring and incident response 24 hours a day, 365 days a year
- Network provisioning of new devices, customers, and providers
  - Including the needed discovery, design, and deployment efforts
- Proactive and reactive network issue resolution
  - Including monitoring, alerting, and troubleshooting
- Network maintenance
  - Planned and emergency work for upstream, downstream, and internal networks
- Technical communications with your teams, clients, and vendors
- A complete "intent based networking" (IBN) automation system, including:
  - Integration with your existing network devices
  - Standardized device configuration templates
  - All needed sources of truth (CMDB, DCIM, IPAM, etc.)
  - A configuration and validation engine (orchestration and automation)
  - An operational toolkit (complete monitoring, alerting, and observability)
  - CI/CD pipeline based change control and configuration rollback
  - Documentation and training for your staff
- Software licensing, software support, and managed hosting of FullCtl IBN platform
- Proactive software and firmware updates for all infrastructure and applications
- Transparent reporting that keeps you always in the know, and never in the dark
- Ongoing proactive network and automation improvements as needed
- Internal escalations and direct access to the FullCtl founders

BEYOND NETWORK RELIABILITY: CREATE BUSINESS AGILITY

Business agility is not about one product, one service, or one layer in your technology stack. It's a chain where one weak (less agile) link can cause the whole of your business to be less competitive.

For a very long time our networks have been a major challenge to agility. Your network can challenge this paradigm! It can provide both traditional network reliability and modern digital agility.

Yes, it is possible to build and operate network infrastructure in such a way that performance and reliability are so advanced that your network becomes a selling point, rather than a pain point.

LEVERAGE FULLCTL TO PROVIDE NEW REVENUE STREAMS FOR YOUR BUSINESS THROUGH ADVANCED NETWORK SERVICE OFFERINGS, SUCH AS:

- Enterprise-grade transport services
  - Metro-Ethernet
  - MPLS, VXLAN, and Segment Routing (SR)
  - Hyperscale cloud on-ramps and multi-cloud networking
  - Network Function Virtualization (NFV)
- Advanced security services
  - Distributed Denial of Service (DDoS) monitoring and mitigation
  - IP address reputation and route monitoring
  - Routing security through RPKI, RTBH, and route filtering
  - Network slicing and micro-segmentation
- Complete network observability (monitoring, graphing, and alerting)
  - Network traffic statistics; including bw usage, latency, packet loss, and errors
  - Physical network information; including fiber-optic light and power levels
  - Routing information; including per-ASN traffic profiles and peering suggestions
  - Advanced traffic analytics for optimization, capacity planning, and anomaly detection
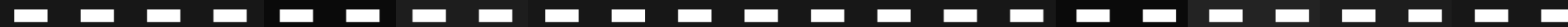
BATTERIES INCLUDED

You could spend millions of dollars a year staffing an internal NetDevOps team, composed of network-aware software developers, network-focused systems engineers, and automation-friendly network engineers.

Or, you could hire the FullCtl team to handle it for you, at a fraction of the cost

🗡️ 10   💎 10   ⭐ 10

Our team; which includes:
- 5+ Network Architects
- 7+ Network Engineers
- 2+ Software Architects
- 4+ Software Developers
- 4+ Systems Engineers
- 5+ Project Managers

Our scope; with customers including:
- 5+ Cloud and Hosting Providers
- 15+ Internet Exchanges
- 4+ Data Center Operators
  - Including one of the top 10 largest DC operators in the world!
- 3+ Internet Service Providers
- 7+ Enterprises

Our scale; currently under our management:
- 26.4+ Tbps of network capacity
  - That's over 2,640 Gbps!
- 113+ Internet edge routers
- 1,500+ Data center switches

In other words, we are large enough to take full ownership and accountability of your network with ease, while remaining small enough to care personally about every customer whom we provide our bespoke services to.
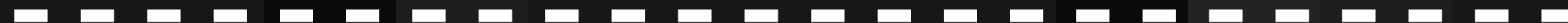
A MODERN APPROACH TO NETWORKING

FullAuto NaaS provides you with the best of both worlds; the ability to deploy your own hardware to ensure you enjoy high service-provider margins and at the same time outsourcing the managing, monitoring, securing, and scaling of your infrastructure to a truly best in breed provider.
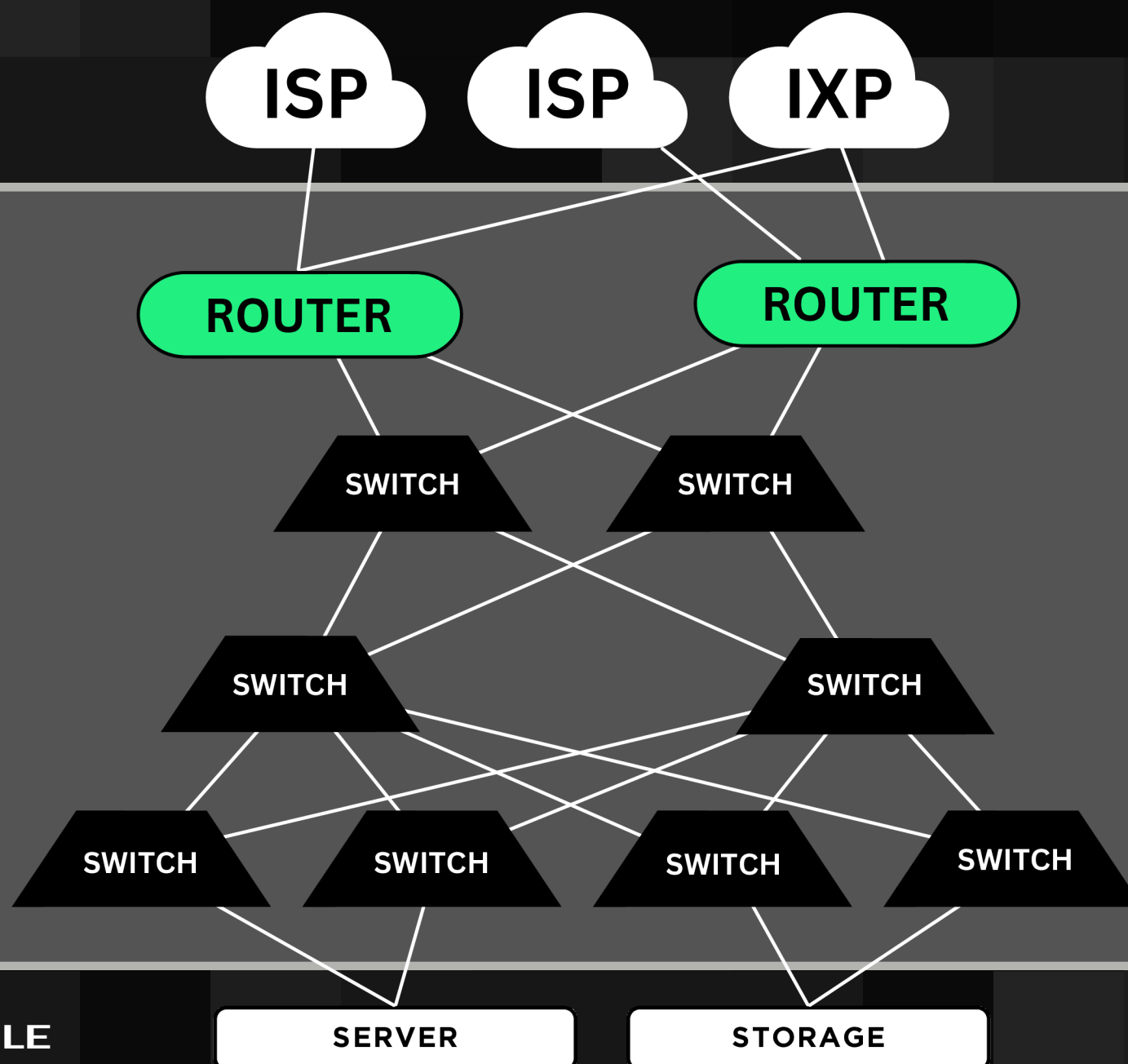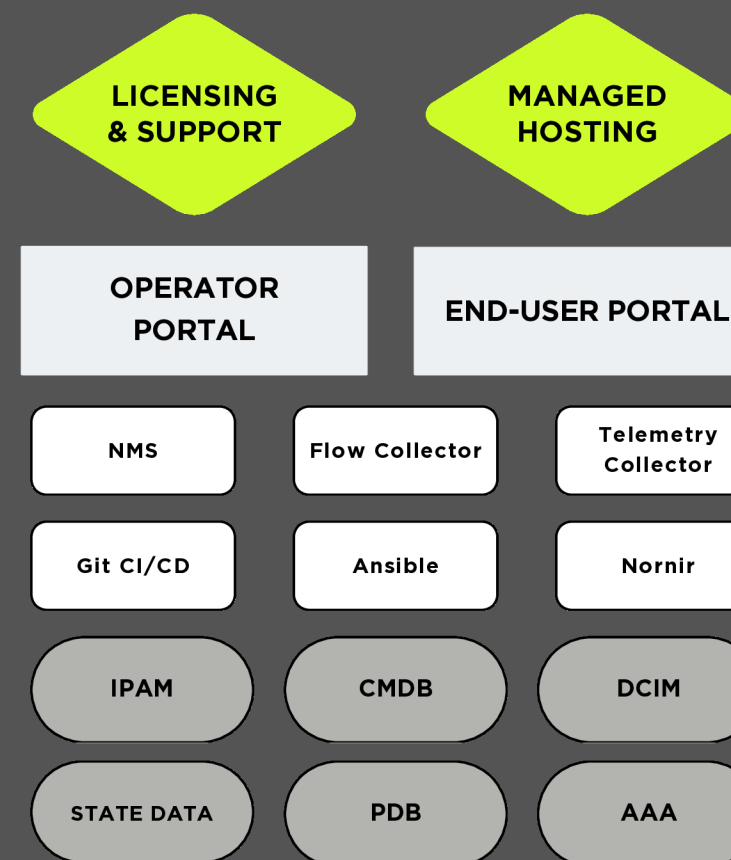
PLAYER 1

HIGHSCORE 2500

NETWORK

OPERATIONS

- Network Security
- Provision & Configuration
- Monitoring & Reporting
- Maintenance & Updates
- Identify & Resolve Incidents
- Technical Communications
- Proactive Improvements

ISP   ISP   IXP

ROUTER   ROUTER

SWITCH   SWITCH

SWITCH   SWITCH

SWITCH   SWITCH   SWITCH   SWITCH

SERVER   STORAGE

⬤— FULLCTL ACCOUNTABLE

SOFTWARE

LICENSING & SUPPORT   MANAGED HOSTING

OPERATOR PORTAL   END-USER PORTAL

NMS   Flow Collector   Telemetry Collector

Git CI/CD   Ansible   Nornir

IPAM   CMDB   DCIM

STATE DATA   PDB   AAA

FULLAUTO NAAS FROM FULLCTL IS A COMPREHENSIVE SERVICE

For organizations who have made the astute realization that they don't have an appetite to be accountable for all of the headaches and overhead that comes with building, scaling, managing, and securing a modern, world-class connectivity platform; we take full responsibility of your network so that you can focus on providing differentiated services and value to your customers.
Here's a snapshot of what's included:

Network Design and Architecture
Designing and implementing the network infrastructure, including choosing appropriate hardware, and setting up network topologies to ensure optimal performance and reliability.

IP Address Management
Allocating and managing IP addresses for servers and clients, including setting up private IPs, public IPs, and handling IP address assignments and subnetting.

Traffic Monitoring and Analysis
Continuously monitoring network traffic for performance issues and anomalies. Analyzing traffic patterns to detect bottlenecks and optimize network performance.

Network Scaling
Planning and implementing network expansions to accommodate growing demand. Adding new servers, upgrading infrastructure, and scaling resources as needed.

Redundancy and Failover
Implementing redundant network paths and failover systems to ensure high availability and minimize downtime in case of hardware failures or other issues.

Bandwidth Management
Managing and optimizing bandwidth usage to prevent congestion and ensure fair allocation among clients.

Network Backup and Recovery
Setting up and maintaining backup systems for network configurations and ensuring that disaster recovery plans are in place.

100% Uptime Guarantee
For all infrastructure directly managed by FullCtl.

Service Level Agreements (SLAs)
Managing and ensuring compliance with SLAs related to network performance, uptime, and support response times.

Network Configuration
Configuring switches, routers, and other network devices. Regularly updating and patching software and firmware to ensure compatibility and security.

Interconnection and Peering
Managing relationships with ISPs and other network providers. Setting up peering agreements and ensuring efficient and cost-effective interconnectivity.

Client Support and Troubleshooting
Providing technical support to clients for network-related issues. Troubleshooting connectivity problems, network performance issues, and assisting with configuration.

Compliance and Documentation
Ensuring that network practices comply with relevant regulations and standards. Maintaining detailed documentation of network configurations, policies, and procedures.

Network Upgrades and Maintenance
Regularly upgrading network hardware and software to incorporate new technologies and improve performance. Performing routine maintenance to keep the network running smoothly.

NEVER WORRY ABOUT YOUR NETWORK AGAIN!

Start today by reaching out to us:

hello@fullctl.com

fullctl