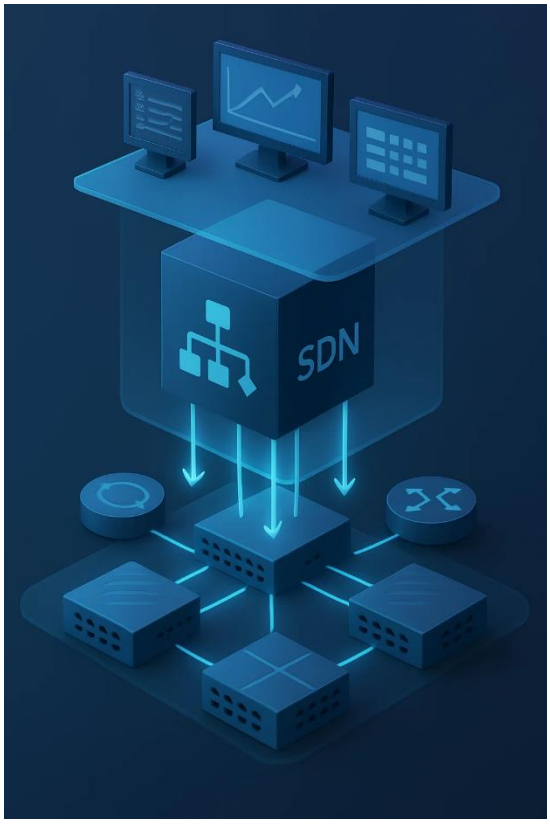
Network Automation

At **NetOpt.Design**, we specialize in **automating network operations** through advanced **SDN (Software-Defined Networking)** solutions based on **OpenDaylight**. Our **Network Automation** service streamlines configuration management, minimizes human error, and accelerates deployment cycles across large networks. We integrate **Netconf/Yang**, **CLI scripting**, and **REST API** frameworks to create an efficient, scalable, and robust network automation system. This service ensures that your network can be dynamically optimized, scaled, and managed with minimal manual intervention, improving performance and reducing operational costs.

Key Services in Network Automation:



1. **Golden Configuration and Dynamic Activation**
   - We assess the network's needs and **define the optimal base/golden configuration** that ensures consistent and efficient device configurations across the entire network.
   - Our team focuses on **dynamic activation** to handle configuration changes in real-time without disrupting network operations. This enables continuous updates and adjustments without the need for manual intervention.
2. **Vendor Integration with Netconf/Yang**
   - We work closely with vendors to **integrate their Netconf/Yang solutions** with your **SDN system**, ensuring smooth configuration management across devices and equipment.
   - By leveraging the **Netconf/Yang** protocol, we enable seamless, standardized automation, allowing for easy deployment of changes across a large set of devices, regardless of vendor.
3. **CLI Script Automation**
   - Our team develops and customizes **CLI scripts** that run through **vendor EMS (Element Management Systems)** or third-party systems, automating network configuration and management.
   - We also implement **Netconf/Yang-based automation** solutions to manage device configurations at scale, minimizing manual input and reducing human error.
4. **API Integration and SDN Connectivity**

- We ensure full integration of your **SDN system** with the **service provider OSS** through **REST APIs**, promoting interoperability between different network layers and systems.
- We prioritize **API-first principles** to ensure that your network can easily communicate with external systems and applications, facilitating a more agile and responsive infrastructure.

5. **Guardrails and Configuration Validation**
   - We build **guardrails** within the system to **reduce configuration fallouts**. By automating error checks and validations before and after dynamic activation, we ensure that only tested and verified configurations are deployed.
   - **Extensive validation** is performed at multiple levels to detect and resolve potential issues, ensuring the network remains stable and reliable post-deployment.
6. **Scalability for Large-Scale Networks**
   - Our solutions are designed to scale effortlessly, allowing your SDN system to handle **thousands of devices** across geographically dispersed locations.
   - We ensure that as your network grows, your automation system will grow with it—providing consistent management and efficient performance, regardless of scale.
7. **Cost-Effective Device Selection for Automation**
   - For organizations with **limited budgets**, we assist in **selecting the right devices** for automation. We work closely with clients to choose the most cost-effective devices that provide the best performance and are ideal for automation, ensuring that resources are utilized efficiently.
   - Our recommendations balance **device cost**, **performance needs**, and **scalability**, enabling you to automate as much of your network as possible without exceeding budget constraints.

Network Automation at **NetOpt.Design** empowers service providers to operate more efficiently, scale rapidly, and achieve optimal performance with minimal human intervention. By integrating **Netconf/Yang**, **CLI scripting**, **API management**, and **OpenDaylight-based SDN systems**, we deliver a **seamless network automation solution** that drives operational excellence and supports future growth.

Let us help you automate and future-proof your network!