MikroTik Core Router at ISP NOC

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- MikroTik Routers to deliver Giga-bits of Internet Traffic

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About Net Solutions

- Working with Broadband providers for More than 12 Years
- Provide HTTP Caching to ISP
- Provide Network Monitoring
- Provide Voice, Video and Collaboration Services
- Specialized in Network Resource planing and utilization for ISP.

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Presentation Objectives

- MikroTik as Core Router for ISP
  - Limitations of MikroTik
  - Advantages of MikroTik
  - Sizing and choosing Suitable Hardware
  - Splitting Load to Multiple Routers

Target Audience

- ISP more than 500 mbps Bandwidth.
- Fast growing Broadband ISP who will reach 500 mbps bandwidth at NOC
- ISP looking for cost effective Redundant Core Router
- ISP interested in implementing IPV6 without disturbing their existing Network

Current Trends

- Options available for ISPs

Core Router:

  - CISCO
  - JUNIPER

Limitations of MikroTik

- Router Hardware
  - Tested & Certified Hardware with Banchmark
  - Best performing Network Adapters
- System CPU Uses 32 bit
- Difficulty in Expansion & Scaling
- Slow Packet Forwarding & packet Drops at High Load

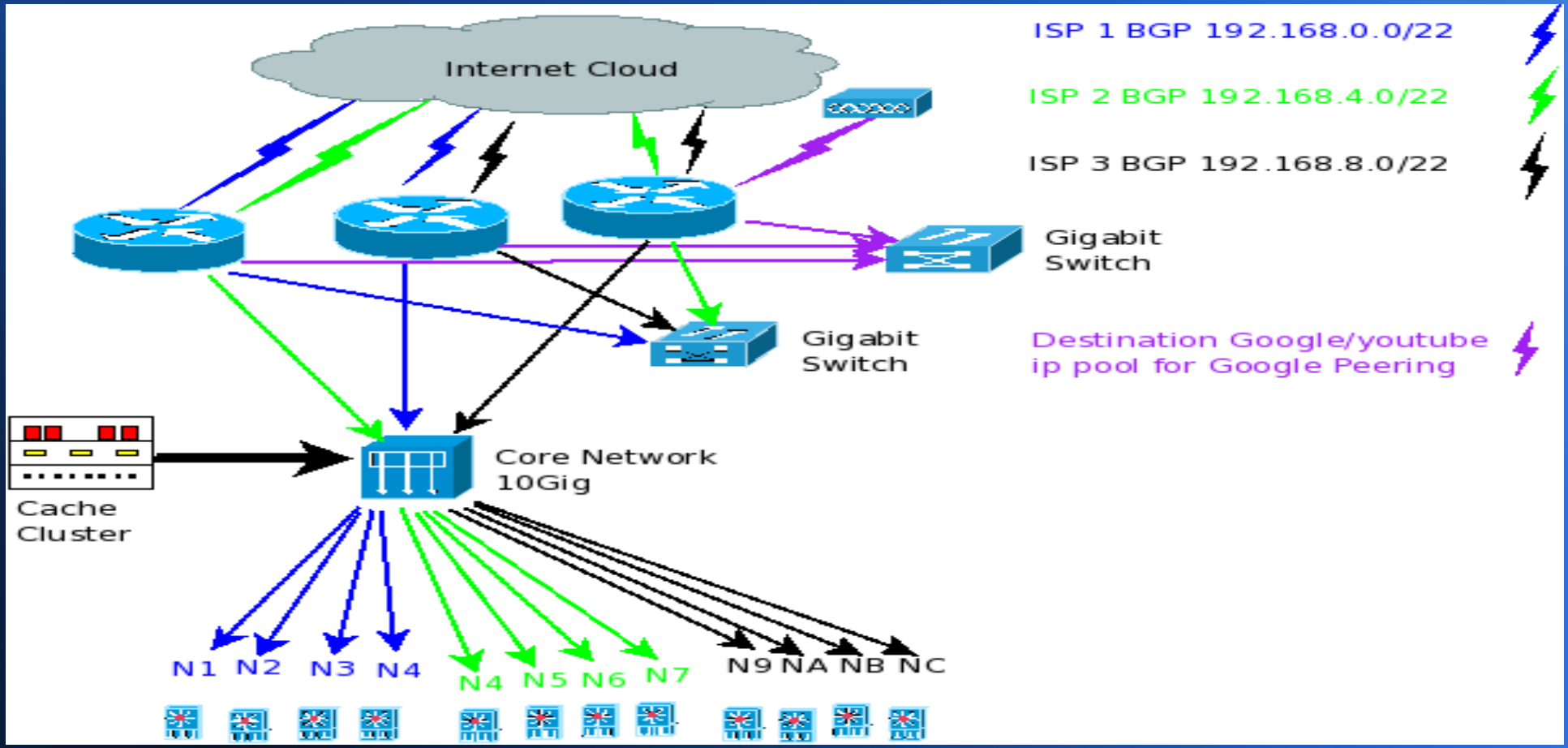
MikroTik Advantage

- Runs on Standard Hardware
- Quick, simple and Low Cost Licensing
- Use Existing Knowledge and experience on MikroTik
- GUI to monitor
- Cost Effective Redundancy
- Planned Scale-ability

Common Do's and Don't

- Separate Core And Access Routers
- Avoid NAT
- Avoid Connection Tracking
- Allocate One Interrupt per LAN Card
- Allocate One CPU Core per LAN
- Local Traffic not through Core Router
- Suitable GBP options for minimum resources
- Fast CPU & RAM

Proposed Configuration



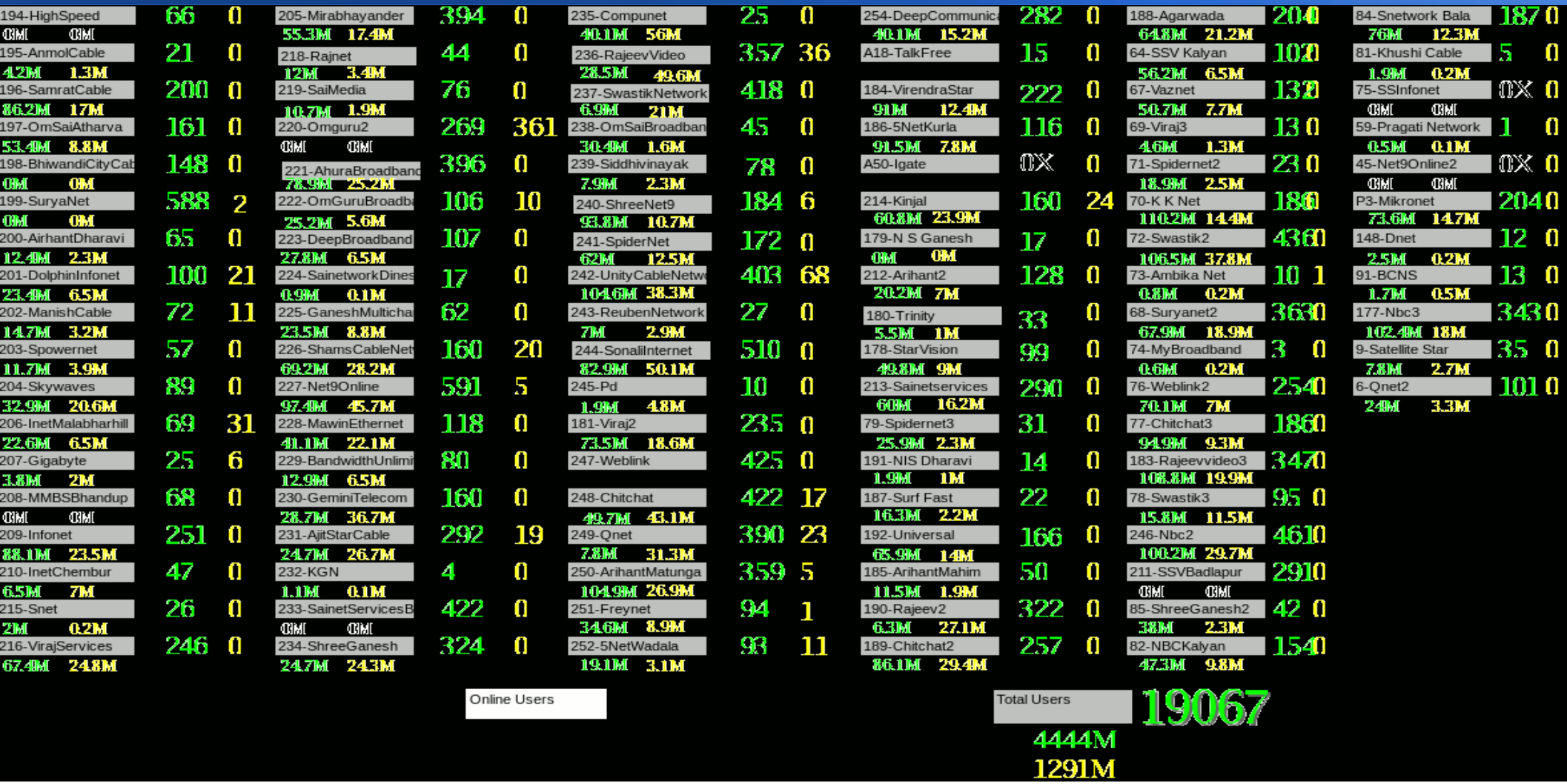
Case Study

- Five Network Solution (I) Pvt. Ltd.
- Largest Broadband Service Provider of Mumbai.
- End to End MikroTik

Core Router Cluster

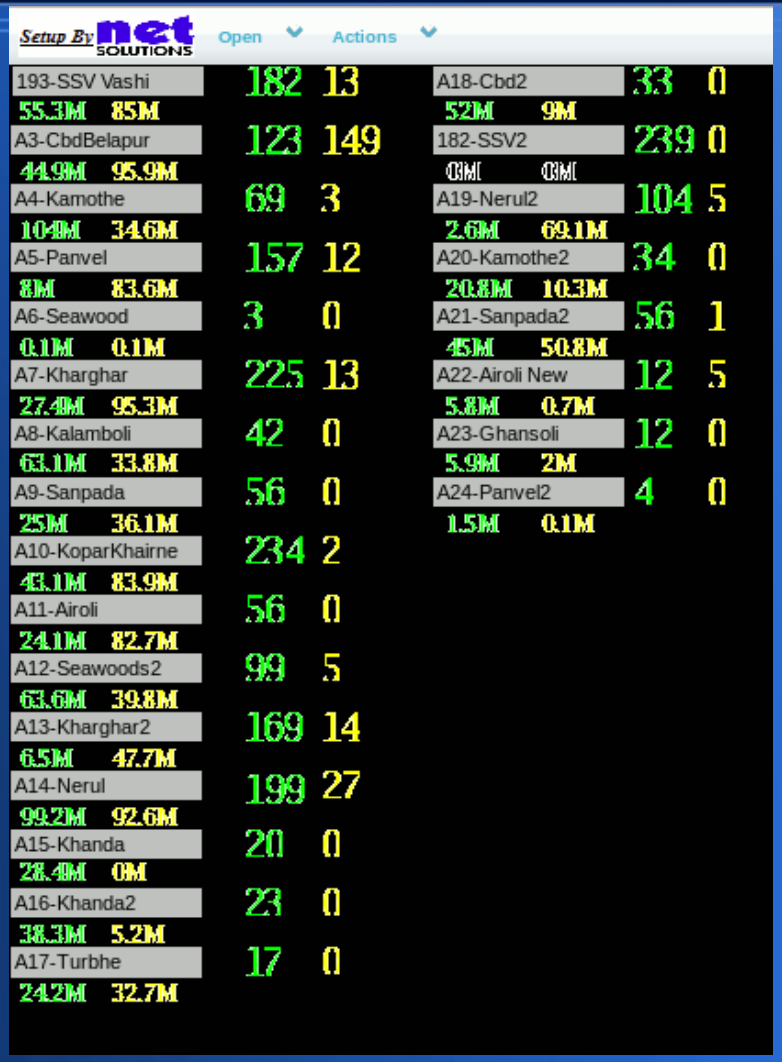
- Two MikroTik Routers to Connect Up-link 6 STM TATA & 6 STM Spectranet, Intel i7 3 Ghz, 2 GB RAM, MikroTik Level 6, 6 Nos. Intel/ Broadcom Gigabit LAN Cards on PCI-e Bus
- One MikroTik Router to Connect Up-link 6STM TATA and 2 GBPS Google Peering Intel i7, 3 GHz 2 GB RAM, MikroTikLevel6, 8 Nos. Intel/Broadcom Gigabit LAN Cards on PCI-e Bus

MikroTik NAS



MikroTik NAS Details

- Total NAS 125
- Maximum Online Users 21000
- Total Internet Traffic 6 GBPS +
- No Buffering on all YouTube Video for all plans



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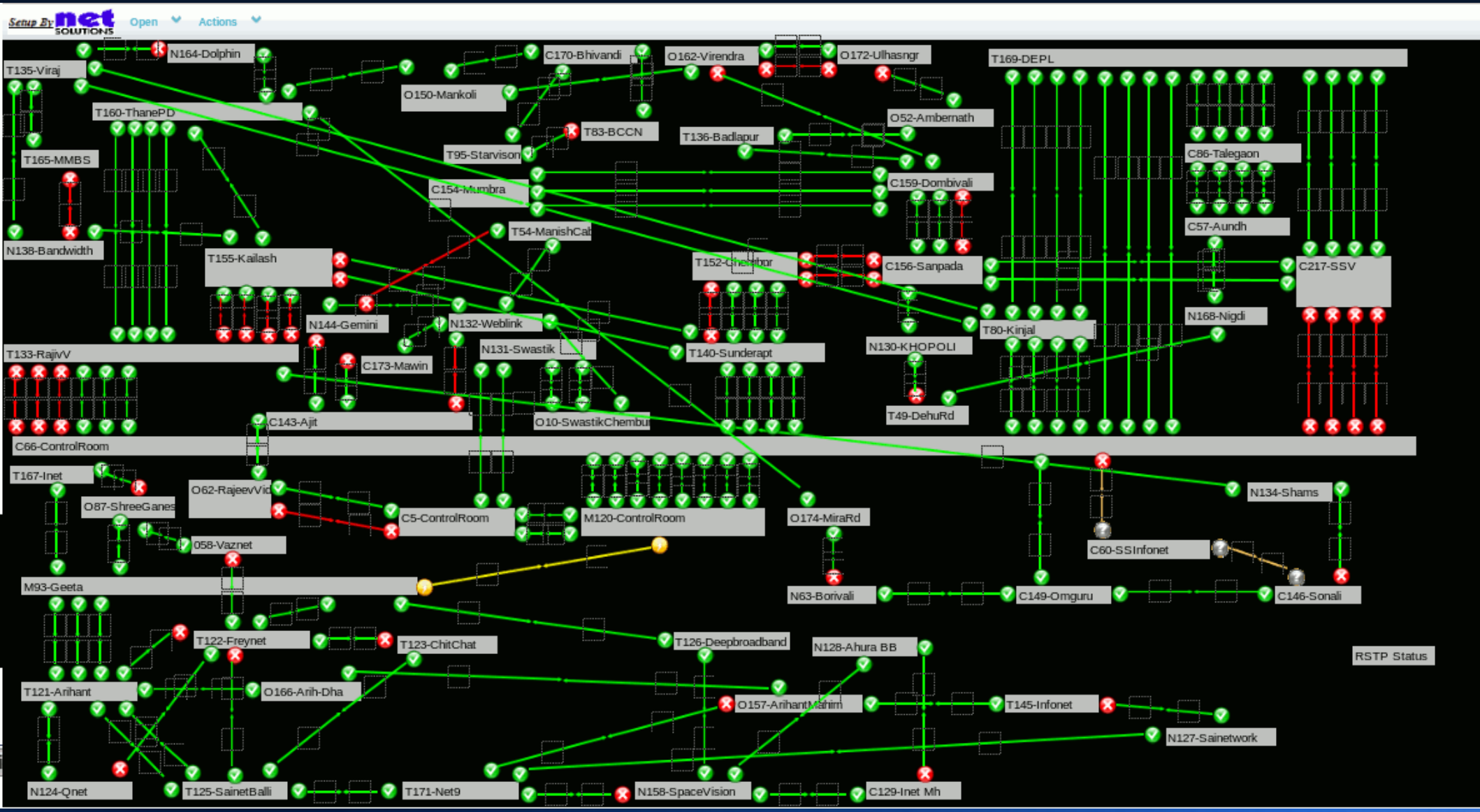
Redundant Backbone with Trunking



10 Gig Local 6 Gig Internet Traffic

- Gigabit Port Trunking on Switches for High Throughput upto 8 GBPS
- Intelligent Routing of Intranet Traffic
- Network Redundancy using rstp
- Remote Management of All Switches and NAS
- Network and NAS Monitoring using NMS
- SMS alert to respective managers for Link/NAS

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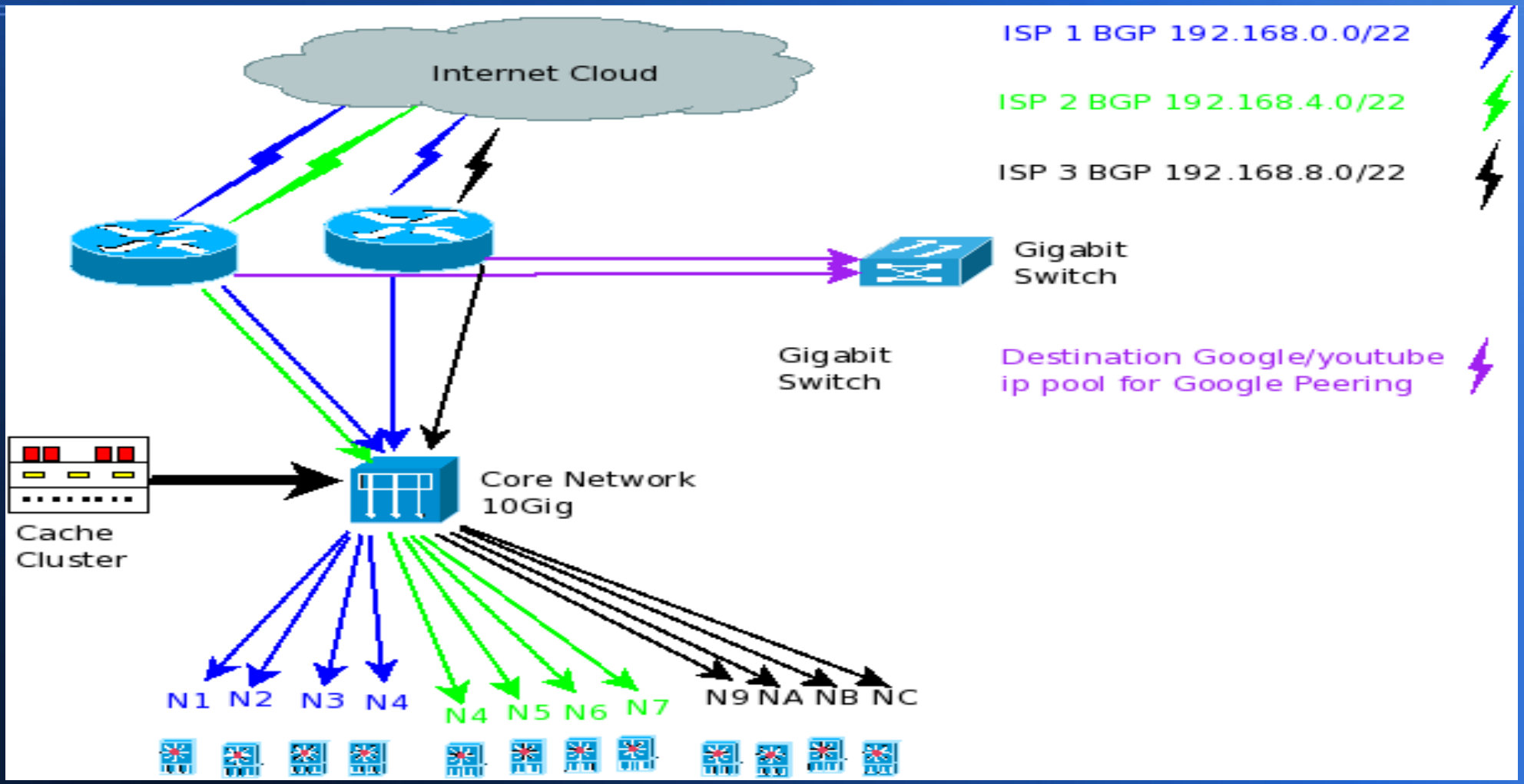
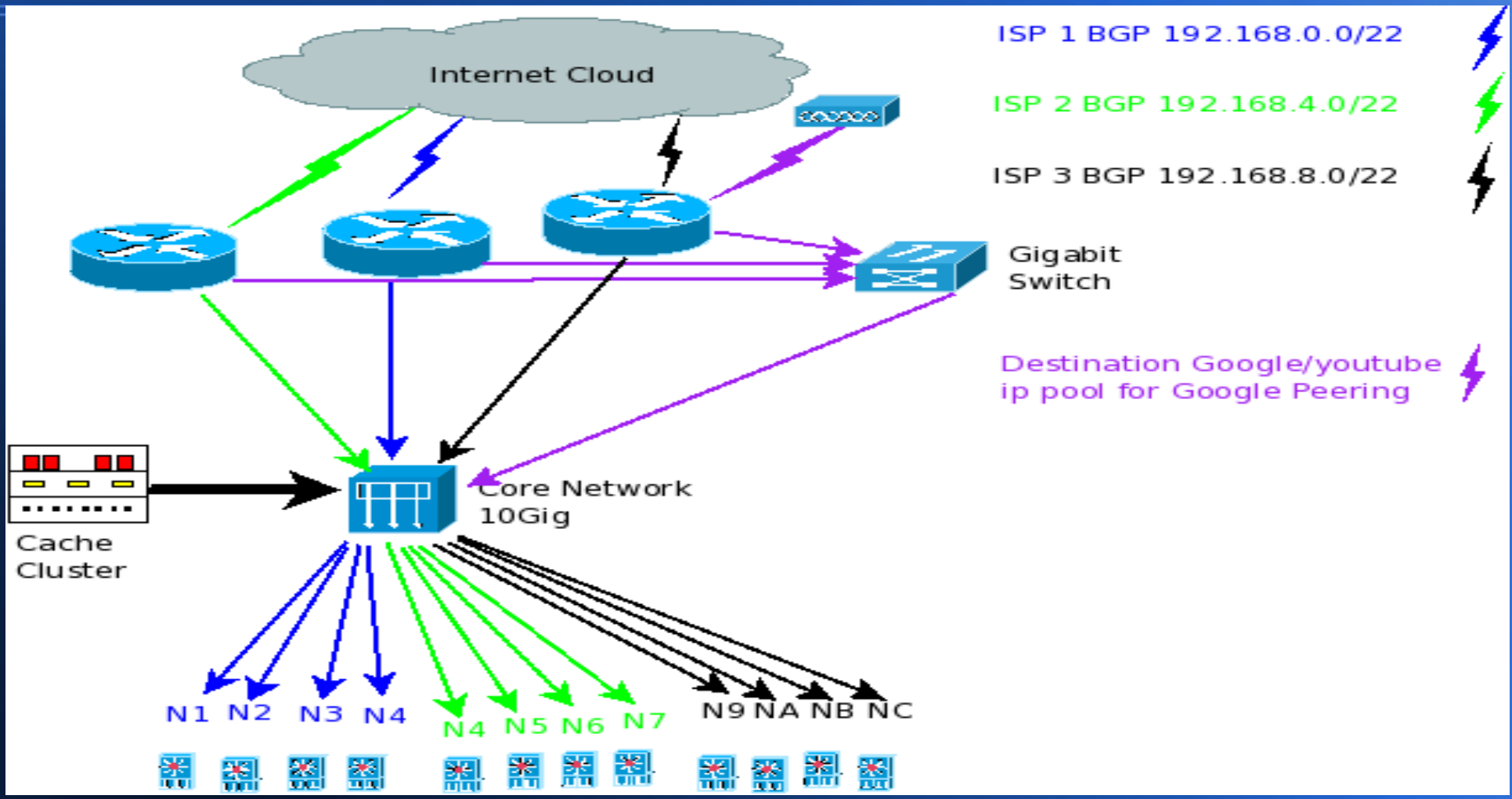
Schematic Diagram 1



Current Setup Diag



Scalability

- Current Setup is can be scaled to 10 gig or more.
- Standby Router is kept for fail over
- Total Cost of ownership of this setup is just 5% of other options
- Existing Experience and knowledge on MikroTik is used for configuration and management.
- No dependancy on any proprietory hardware.

QUESTIONS

Thank You