BODi rS™

More Bandwidth. More Reliability. More Survivability

# Intelligent Load Balancing: Least Used Balance

Application Note

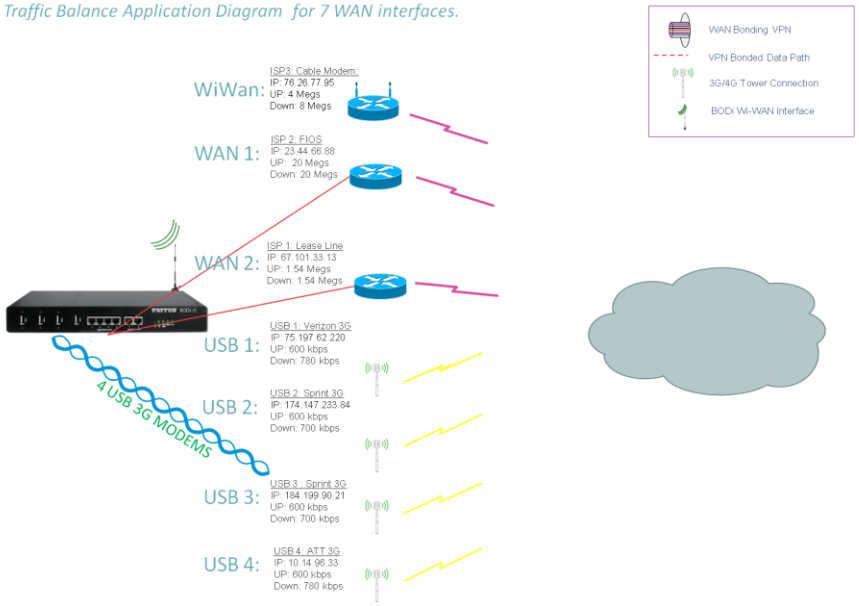
## Understanding Outbound Balance Routing

- The BODi delivers a simple, cost effective way to manage Multi WAN network environments through intelligent Load Balancing Algorithms and advanced VPN bonding technology. The BODi delivers in box solutions to help migrate away from expensive lease line WAN providers in favor of less expensive WAN deliveries, such as cable providers, fiber, and dsl providers, while providing or maintaining business or mission critical reliability and survive-ability to your network. This presentation will focus on pre-configured WAN Balancing Algorithms and how to easily setup and configure your BODi rS for your network needs.

# Load sharing across multiple WAN connections

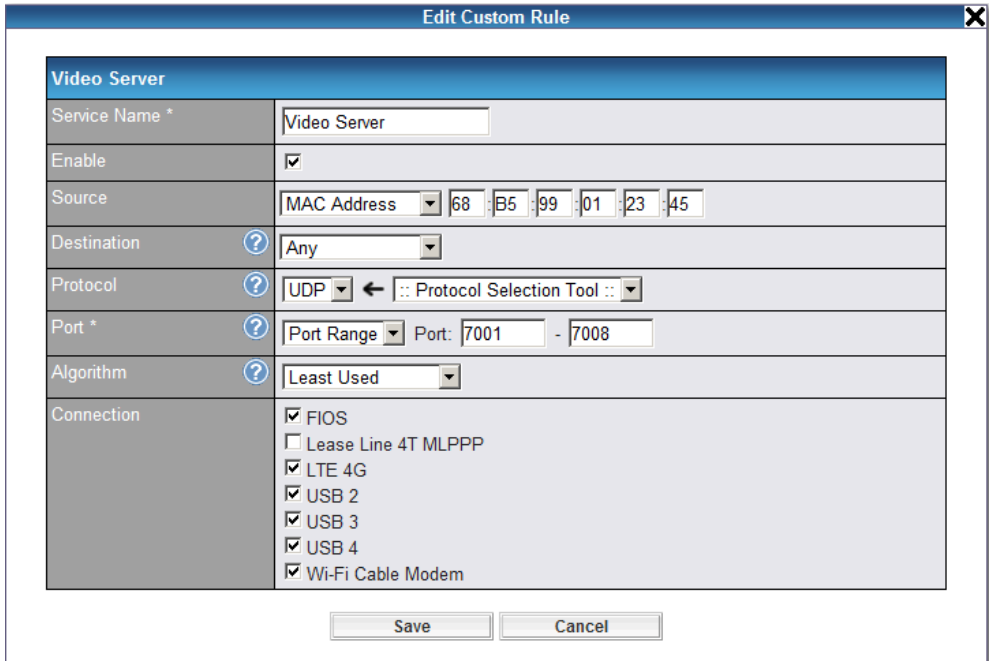
- **Balance up to 7 WAN interfaces using preconfigured balancing algorithms**
  - **Weighted Balance**: Assign more traffic to a faster links or less traffic to a connection with a costly bandwidth caps.
  - **Priority:** Route traffic to your preferred link as long as it's available.
  - **Overflow Balance:** Prevent traffic flow from slowing down when the connection runs out of available bandwidth.
  - **Least Used:** Help you choose the better connection with more free bandwidth.
  - **Enforced:** Restrict outbound traffic to a particular connection.
  - **Lowest Latency:** Give you the fastest response time when using applications like online gaming.
  - **Persistence:** Eliminate session termination issue for HTTPS, E-banking, and other secure websites.

*Traffic Balance Application Diagram for 7 WAN interfaces.*

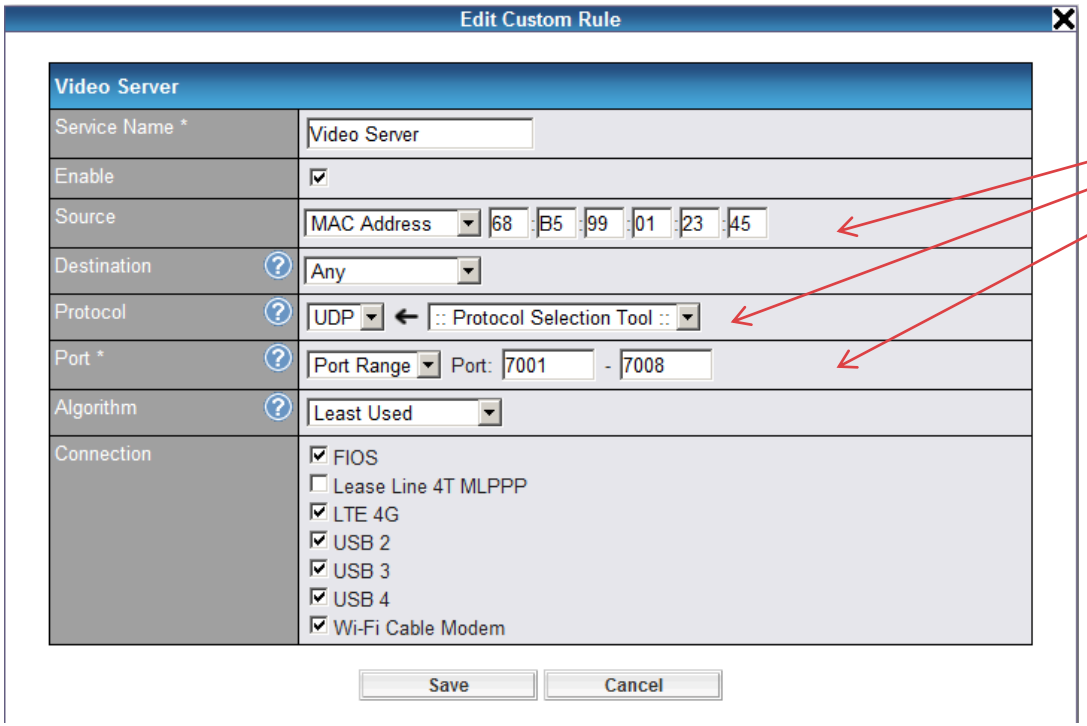


## WAN Optimization: Let's Explore Lowest Latency WAN Balance

- Configure Lowest Latency Algorithm
  - Outbound traffic matching this rule will routed through a healthy WAN connection
  - Route by Source and Destination IP, Network, Protocol, Port
  - Latency checking packets will be performed on all enabled WAN interfaces
  - Routes traffic to the WAN link with the best response time



## Least Used Balance configuration window

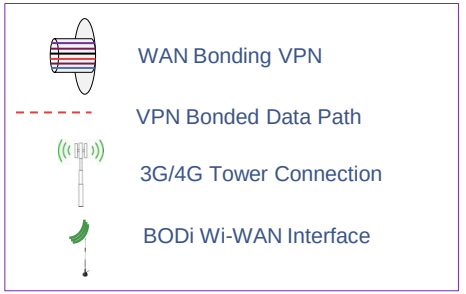



*Source MAC: Video Server*
*Protocol: UDP*
*Dest port range: 7001-7008*

*Video Server: MP4 PUSH*

In this application our *Video Server: 68:B5:99:01:23:45* is capable of a pushing out video streams in unicast format using *UDP Protocol* with the destination *port range from 7001 – 7008* to specific clients and agent subscribers. It is desired that outbound packet streams use WAN links that have most bandwidth available at the time the packet is received.

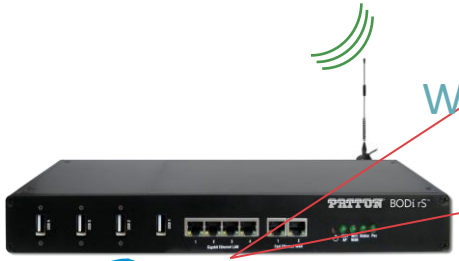
# *Lowest Latency Outbound Traffic Balance App*




**WiWan:**
ISP3: Cable Modem:
IP: 76.26.77.95
UP: 4 Megs
Down: 8 Megs

**WAN 1:**
ISP 2: FIOS
IP: 23.44.66.88
UP: 20 Megs
Down: 20 Megs

**WAN 2:**
ISP 1: Lease Line
IP: 67.101.33.13
UP: 1.54 Megs
Down: 1.54 Megs



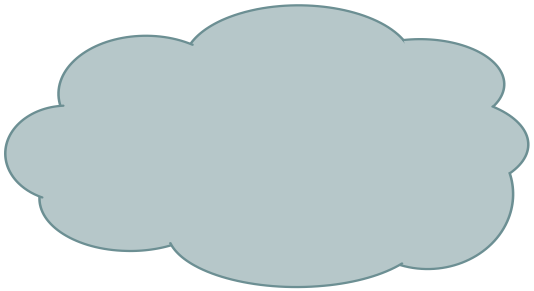

4 USB 3G MODEMS

**USB 1:**
USB 1: Verizon 4G LTE
IP: 75.197.62.220
UP: 6 Megs
Down: 14 Megs

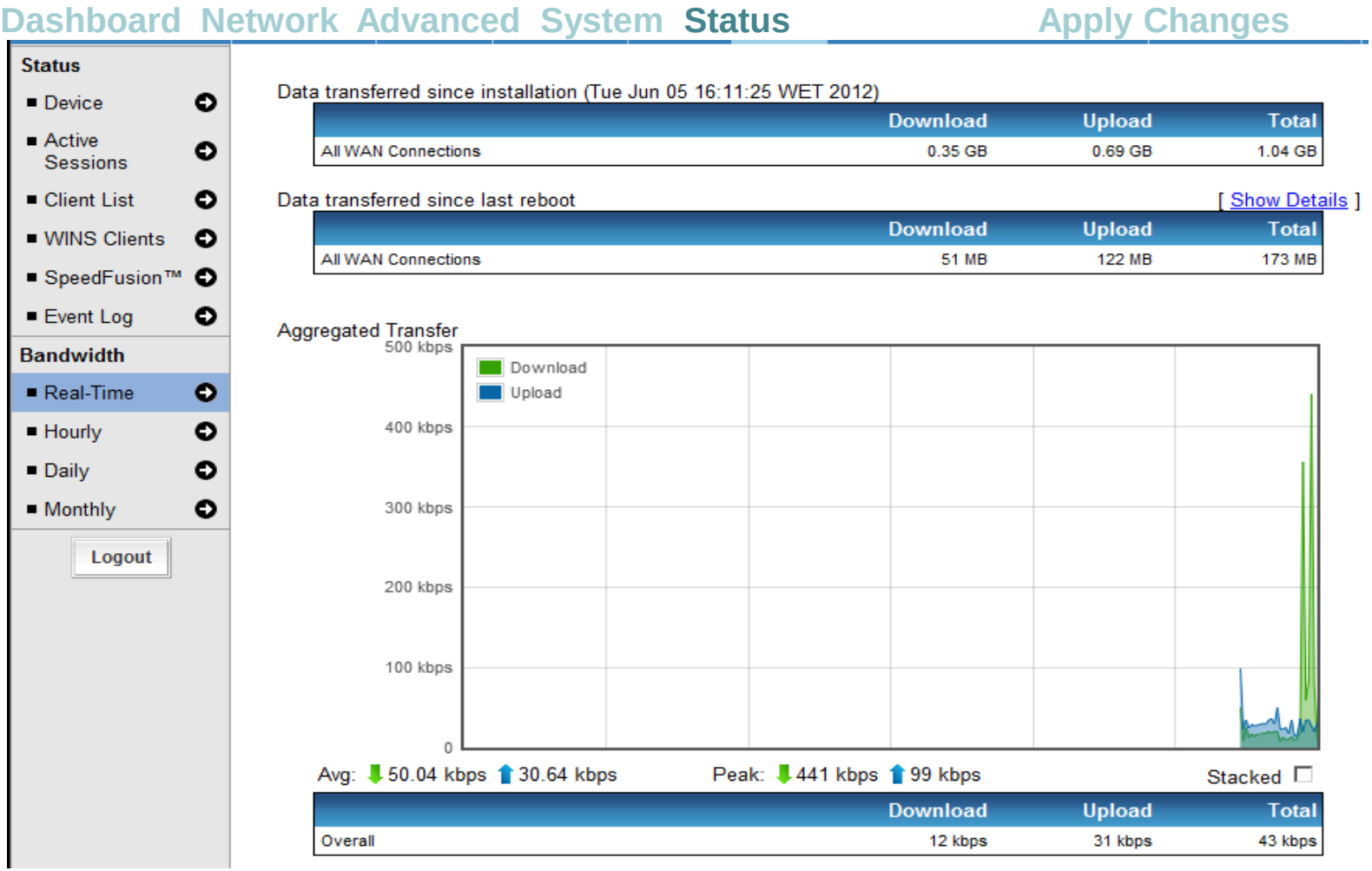
**USB 2:**
USB 2: Sprint 3G
IP: 174.147.233.84
UP: 600 kbps
Down: 700 kbps

**USB 3:**
USB 3 : Sprint 3G
IP: 184.199.90.21
UP: 600 kbps
Down: 700 kbps

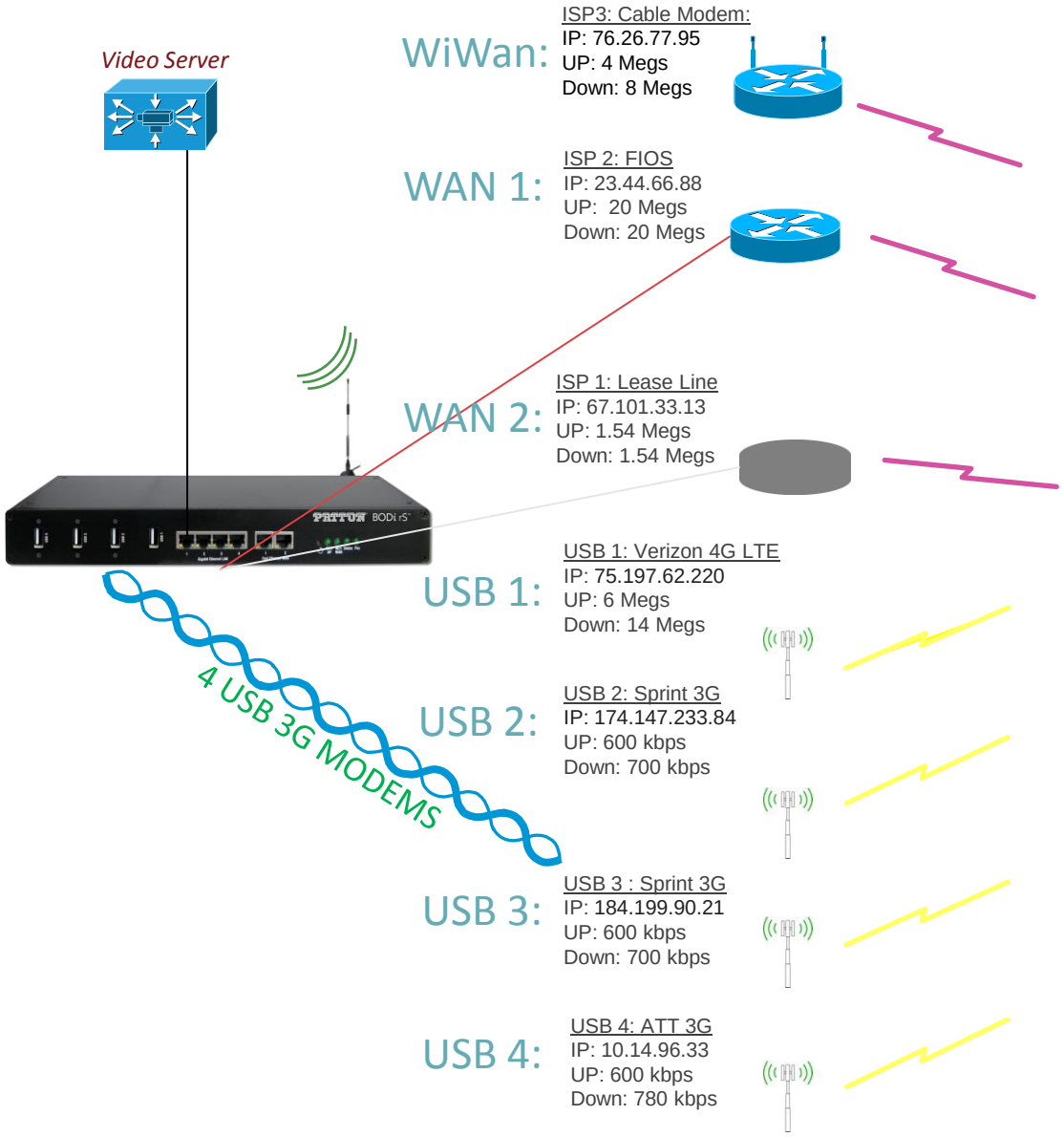
**USB 4:**
USB 4: ATT 3G
IP: 10.14.96.33
UP: 600 kbps
Down: 780 kbps

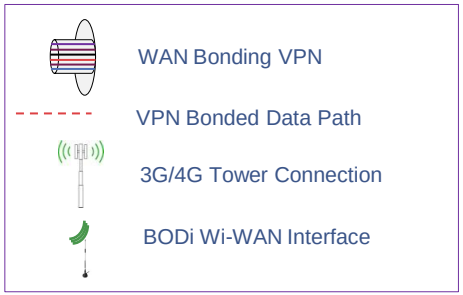


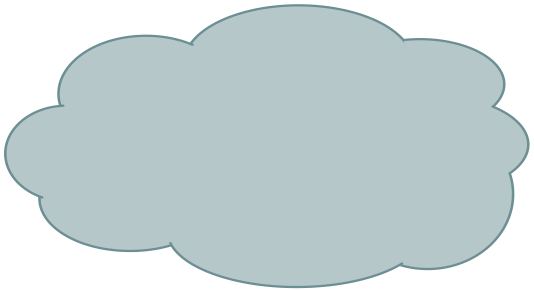
## Least Used Balance Rule constantly monitors bandwidth available for outgoing WAN Links for packet distribution decisions.



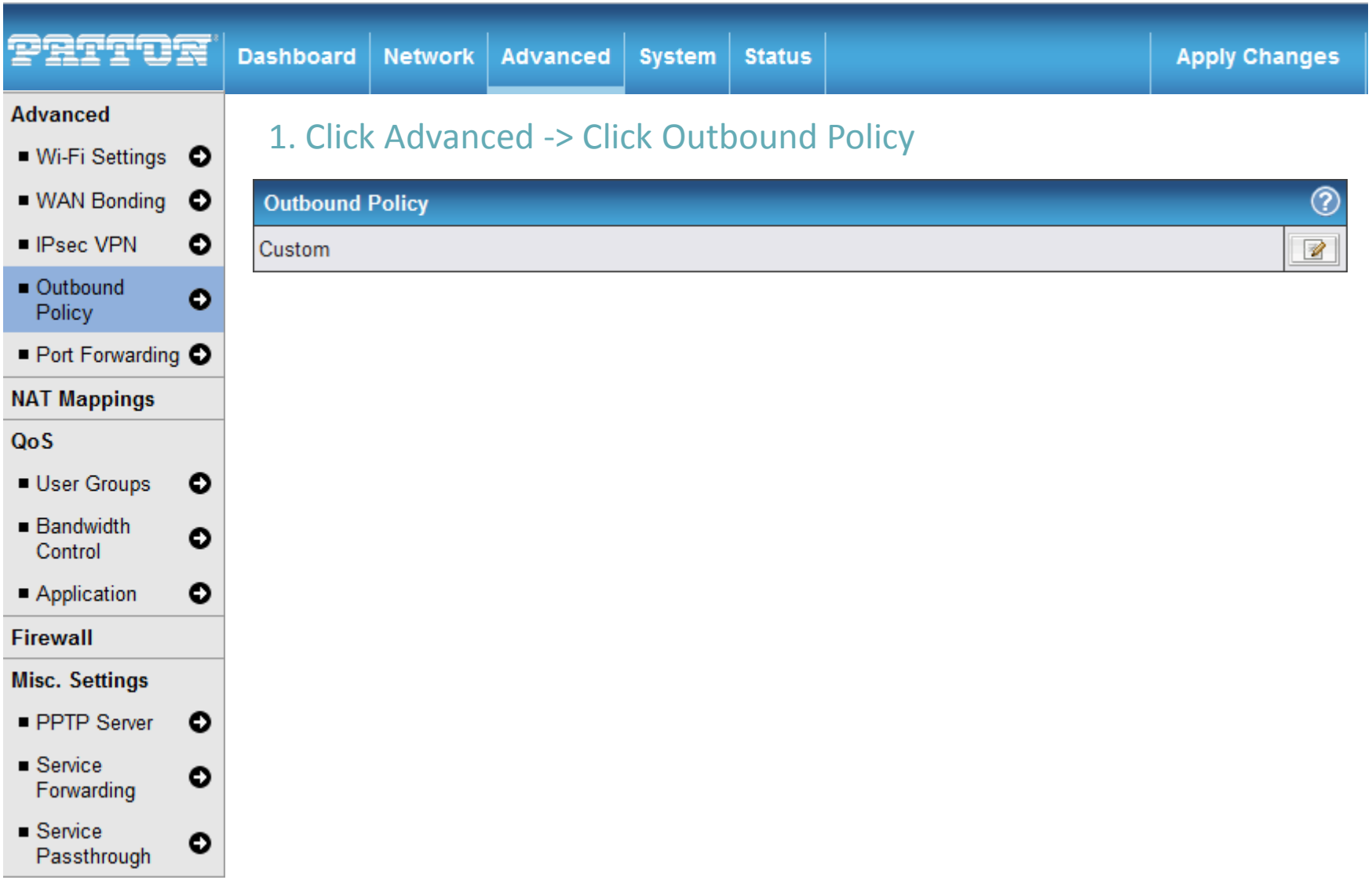
# *Lowest Latency Outbound Traffic Balance App*



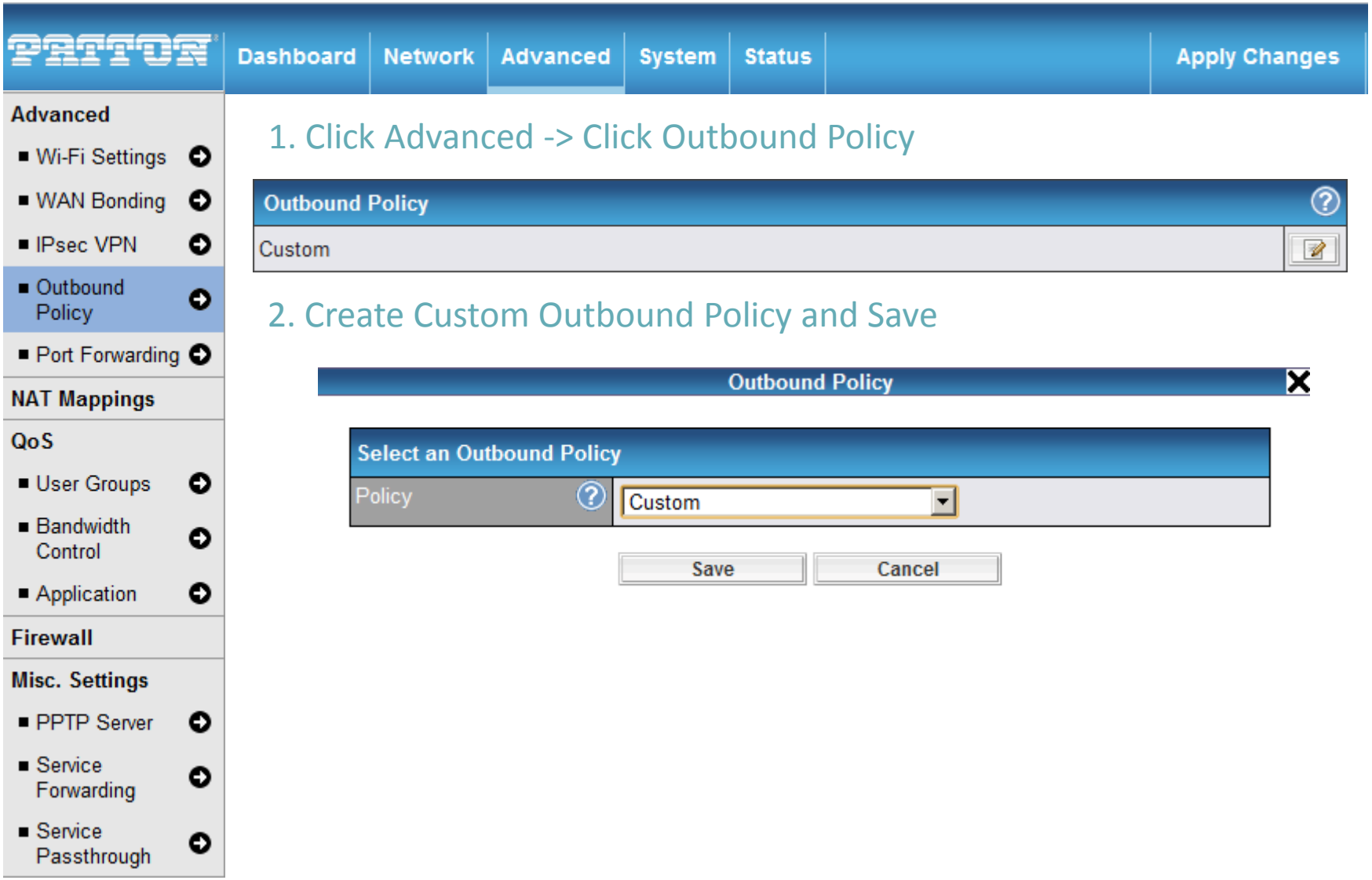



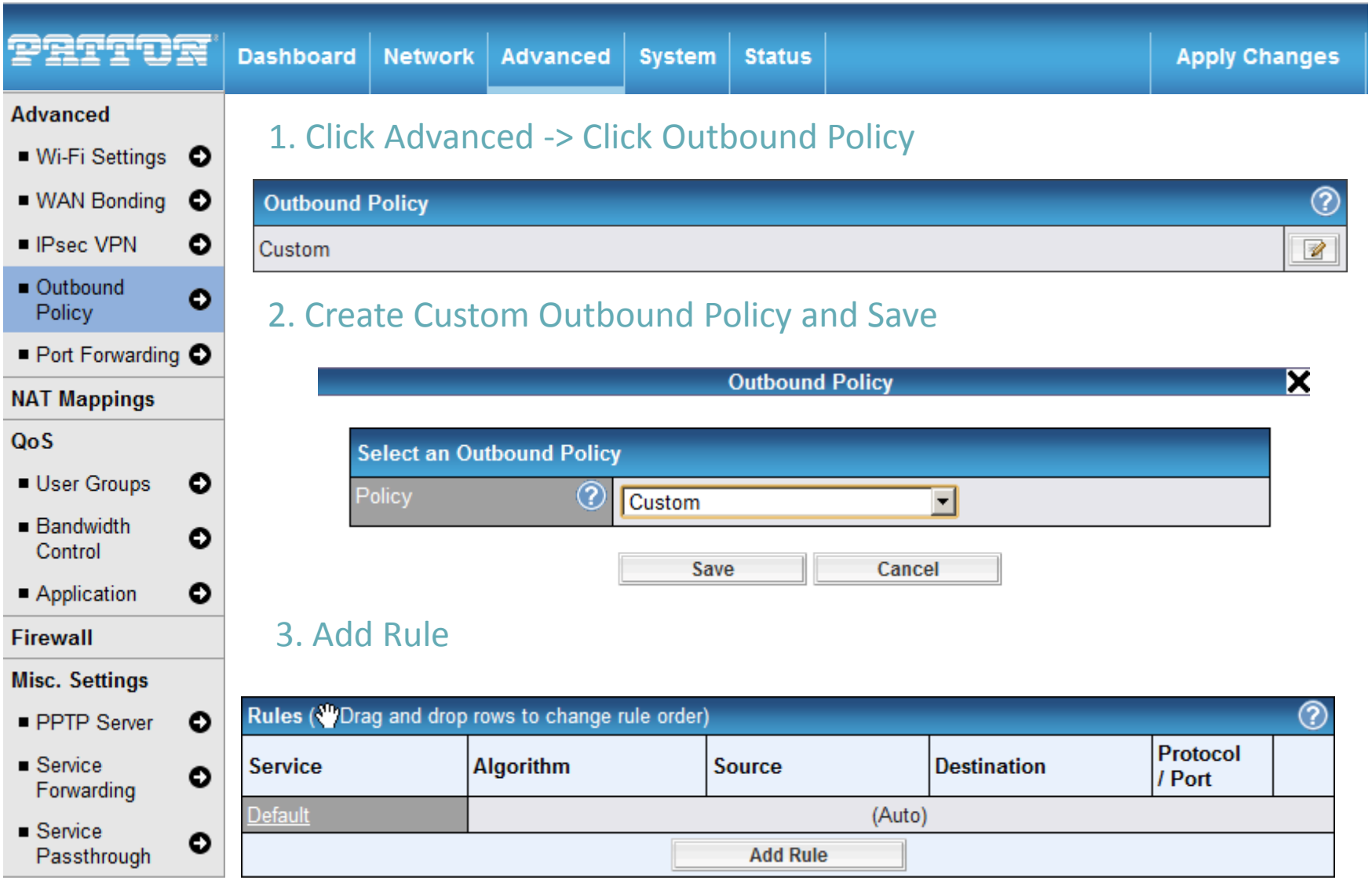
# Step-by-Step: Configuration for Least Used Balance Policy



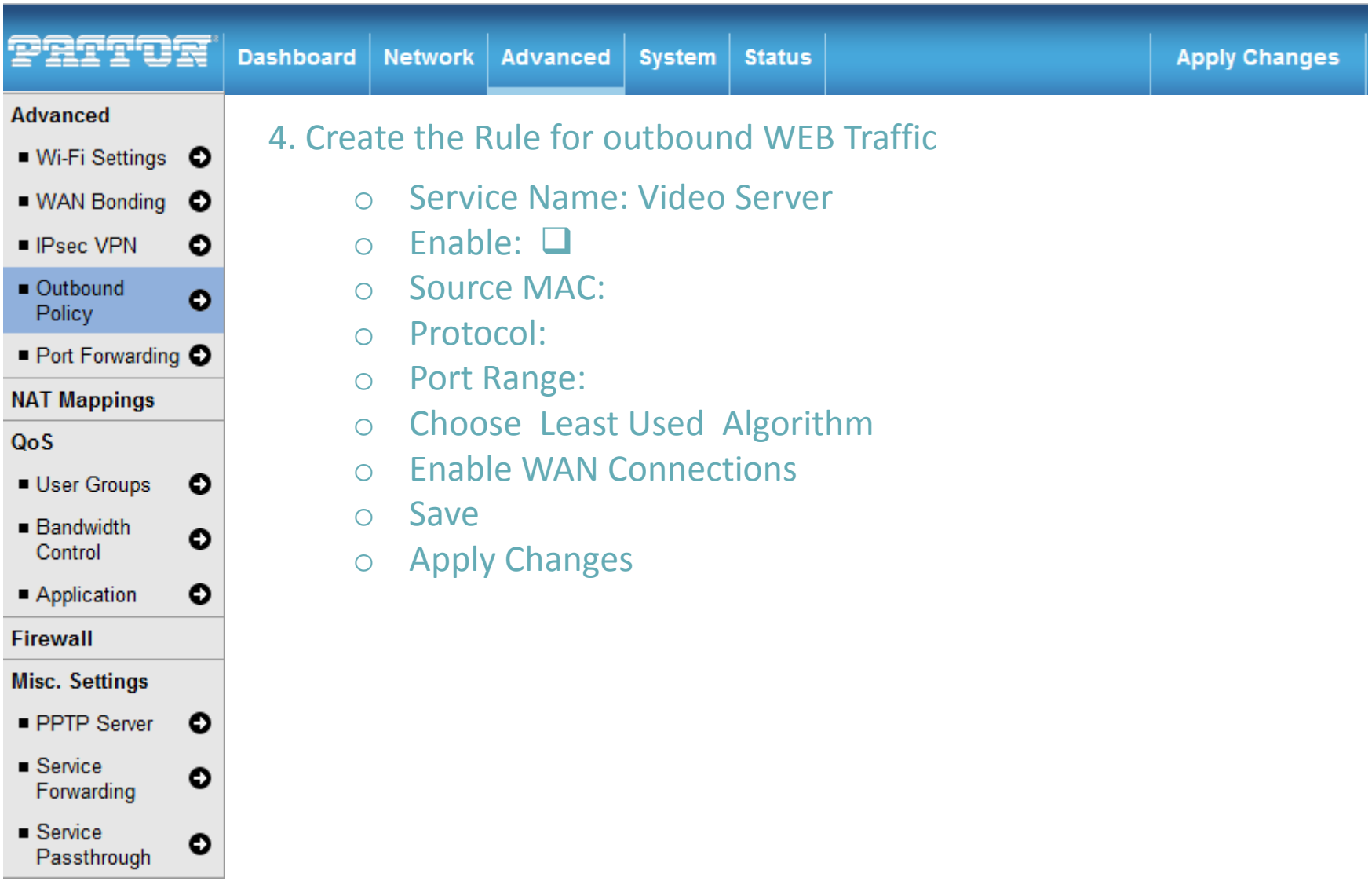
# Step-by-Step: Configuration for Least Used Balance Policy



# Step-by-Step: Configuration for Least Used Balance Policy

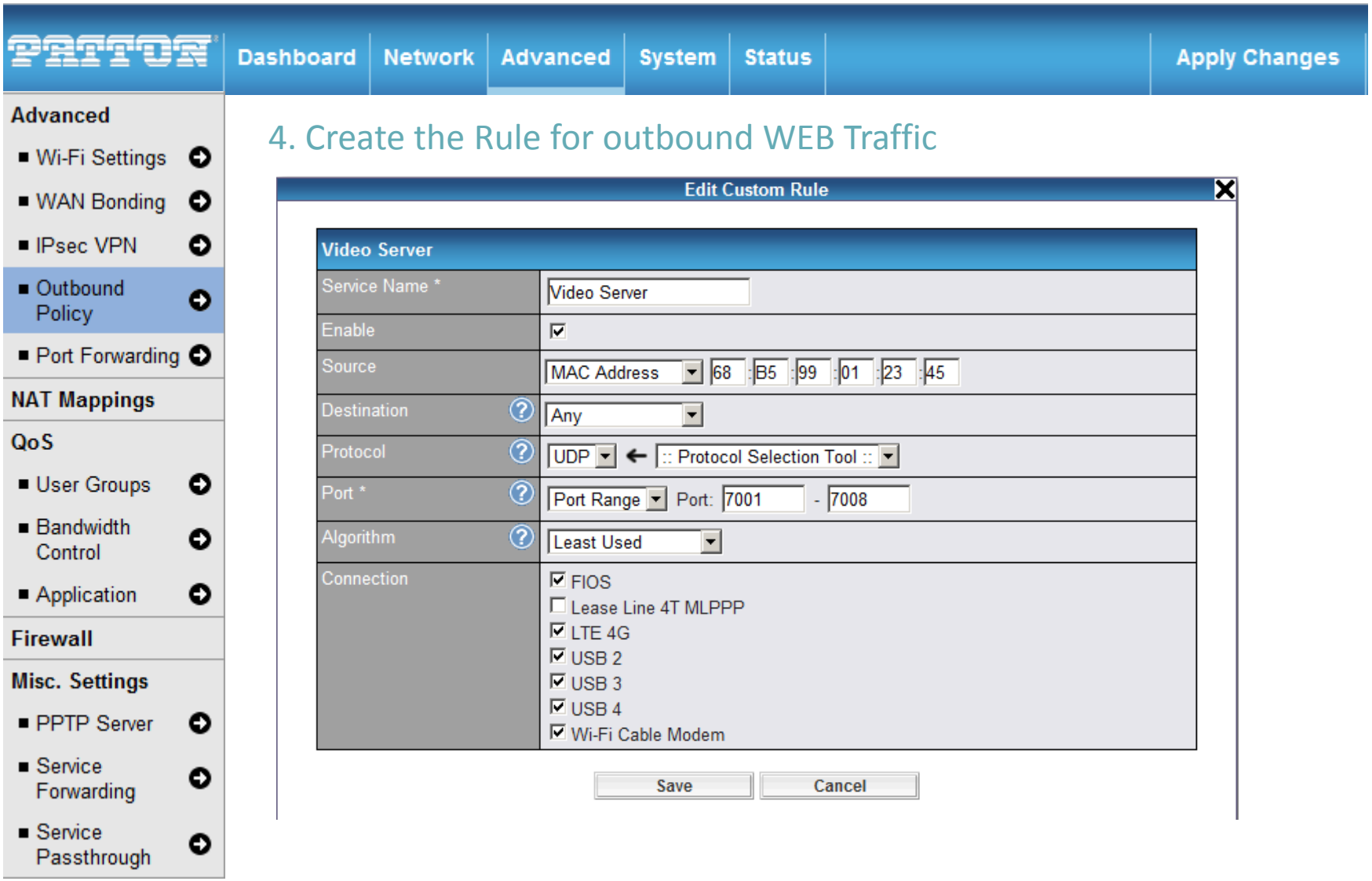


# Step-by-Step: Configuration for Least Used Balance Policy

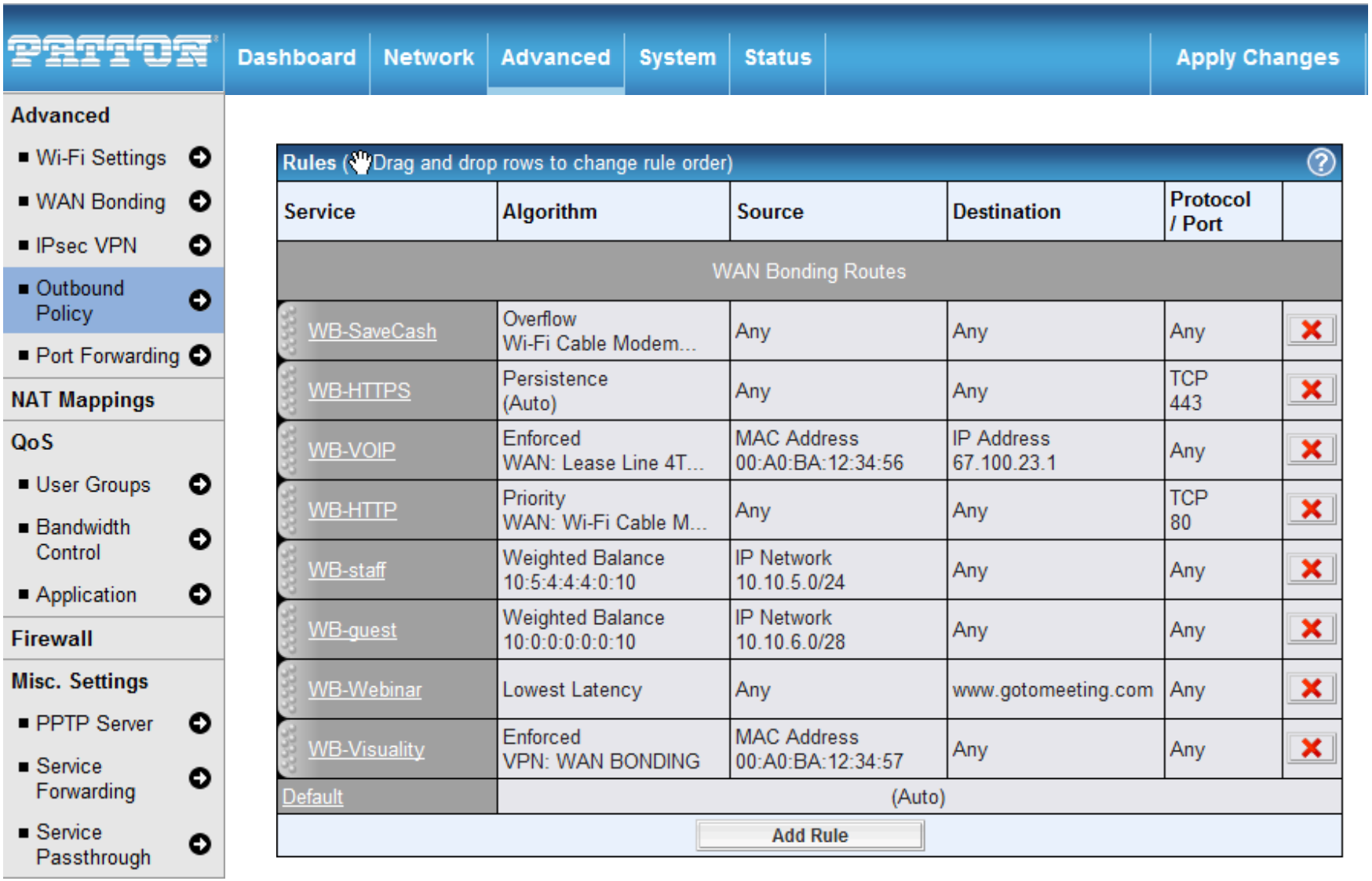



4. Create the Rule for outbound WEB Traffic
   - Service Name: Video Server
   - Enable: ❑
   - Source MAC:
   - Protocol:
   - Port Range:
   - Choose Least Used Algorithm
   - Enable WAN Connections
   - Save
   - Apply Changes

# Step-by-Step: Configuration for Least Used Balance Policy



# Step-by-Step: Configuration for Least Used Balance Policy



## **FOR FURTHER** INFORMATION

For Further information visit us @ www.patton.com or contact us:


PLM

Brian Lawlor

e: blawlor@patton.com

Technical PLM

Dave Puckett

e: puckett@patton.com