

policy based / revenue eXtraction gateway
by RG Nets, Inc.

Stutler Technology National Users Conference

what we do

RG Nets is singularly focused on simplifying the operation and maximizing the revenue potential of IP broadband networks

- RG Nets
 - manufactures policy based turnkey gateways
 - install, configure and train operators
 - distributes through resellers, integrators and OEM partners
- founded in 2007
 - USA company, headquartered in Reno, Nevada
 - profitable since inception, privately held
 - pioneering the “all in one” policy based broadband gateway
 - markets to operators of multi-use networks



what we want

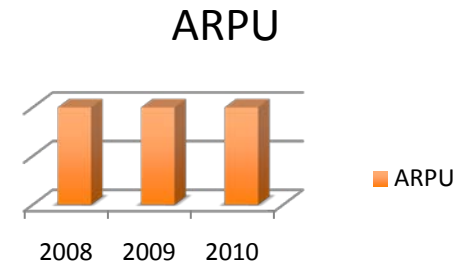
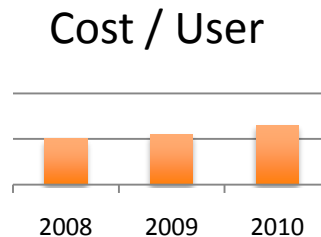
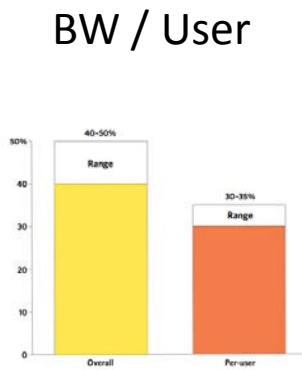
We manufacture a gateway for operators of broadband distribution networks – and we are looking for partners

- Who
 - Want to run profitable networks
 - Want to invest in understanding how to make it work
 - Want to utilize our products and services everywhere they can
- Who
 - Need to increase their customer satisfaction
 - Need to control costs
 - Need to increase revenue

what's wrong with this picture

Service providers

- Broadband consumption is increasing – 35% per year
- cost of delivery is increasing – 10% per year
- ARPU is flat or decreasing – 0% growth



Board of Director Solutions?

Reasonable requests?

- Bandwidth demands - meet customer requirements
 - Buy more capacity
 - And Improve service delivery
- Revenue increase – more money out of the network
 - Add subscribers
 - Increase prices
- Reduce Costs – degrade quality of service
 - Manpower
 - Increase oversubscription ratio

Policy Approach

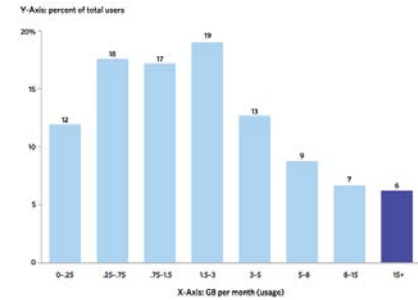
Do more with what you have!

- Classify users – who is using what / when – probably enlightening
- Create tiered / access offerings – match user profiles
- Seek Additional Revenue Sources -- Indirect
- Reduce Costs - Integrate

Classify

Most of the bandwidth is used by a small segment of users

- Download / upload consumption
 - 20% of users consume 80% of bandwidth
 - 80% of users generate 80% of Revenue
- Revenue per Class
- Protocols consumption by class
- Usage profiles



Wireless Broadband Provider					
Report:		Bandwidth Consumption By Group			
Period:		Oct 1, 2010 to Oct 31, 2010			
Mbyte Range	Subscribers		Consumption		Mbits Consumed
Grouped	Total	% of Total	GB	%	Average
1 - 500	198	17.68%	45.0	0.7%	0.23
500 - 1000	147	13.13%	108.1	1.7%	0.74
1000 - 2000	217	19.38%	308.7	4.9%	1.42
2000 - 4000	218	19.46%	624.0	9.9%	2.86
8000 - 12000	199	17.77%	1213.9	19.3%	6.10
10000 - 20000	103	9.20%	1520.0	24.2%	14.76
20000 >	38	3.39%	2467.0	39.2%	64.92
Total	1120	100.00%	6286.7	100%	

Wireless Hotel Service					
Report:		Bandwidth Consumption By Group			
Period:		January 1, 2011 to January 31, 2011			
Mbyte Range	Subscribers		Consumption		Mbits Consumed
Grouped	Total	% of Total	GB	%	Average
1 - 512 Mbs	2783	79.70%	343.79	20%	126.50
513 - 1000	350	10.02%	246.05	14%	719.88
1001 - 2000	194	5.56%	269.02	16%	1000.39
2001 - 4000	89	2.55%	244.52	14%	2750.00
4001 - 8000	54	1.55%	304.91	18%	5650.00
8001 - 16000	17	0.49%	183.42	11%	10790.00
16000 - 99000	5	0.14%	104.27	6%	20850.00
Total	3492	100.00%	1695.98	100%	

Classify

Most of the bandwidth is used by a small segment of users

- 2% of the users consume 35% of the bandwidth
- 1 user consumed 11 GB in one day
- 8 users consume > 1GB in one day

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NY City Hotel				
Report:		Over 1 GB Consumption		
Period:		24 Hour Subscriber Use		
Date:		2/7/11		
Subscriber				
Last	First	Login	MAC Address	24 Hours Use
Adyadan	William	1040aydogan4284	78:dd:08:ff:6b:e3	11.26 GB
Yoogin	Win	2350so5155	e8:39:df:2a:5e:65	5.49 GB
Saayved	Adi	2630saavedra1216	70:fl:a1:5e:84:a4	2.62 GB
Caldwell	Mark	739caldwell4301	00:26:bb:1b:00:3c	1.93 GB
Minev	Ygenvy	2044minev4694	60:33:4b:0b:30:d7	1.58 GB
Polzer	Frank	1641polzer8178	00:23:14:03:68:f4	1.25 GB
Kashchiev	Richard	2254minev1351	00:16:ea:5e:63:2e	1.21 GB
Kazez	Mary	938kaz3642	c8:bc:e8:d7:5d:21	1.04 GB

Create tiered / access offerings

Tiered Services / Access Plans

- Rate Limits
- Consumption Quotas
- Shaped Offerings
- Policy Triggers

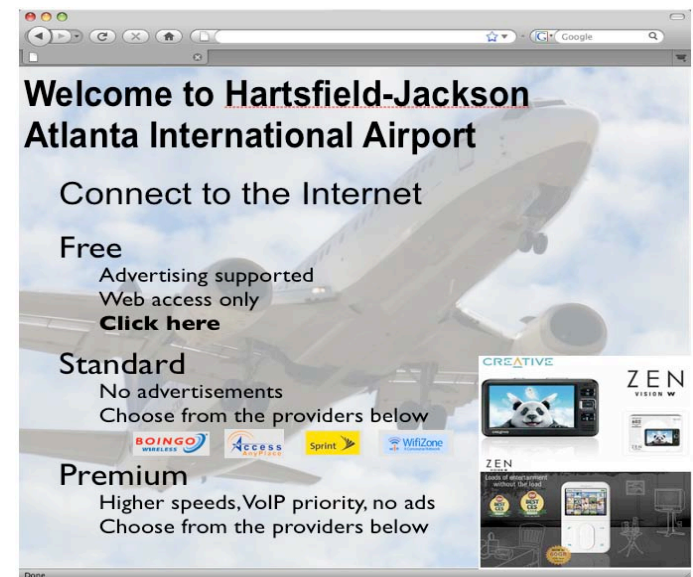
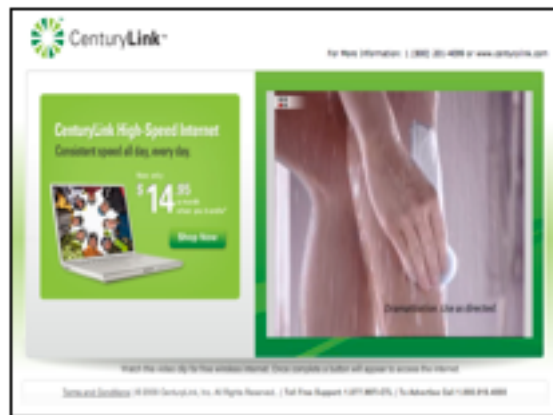
Its happening!



Seek Additional Revenue Sources

Indirect Revenue

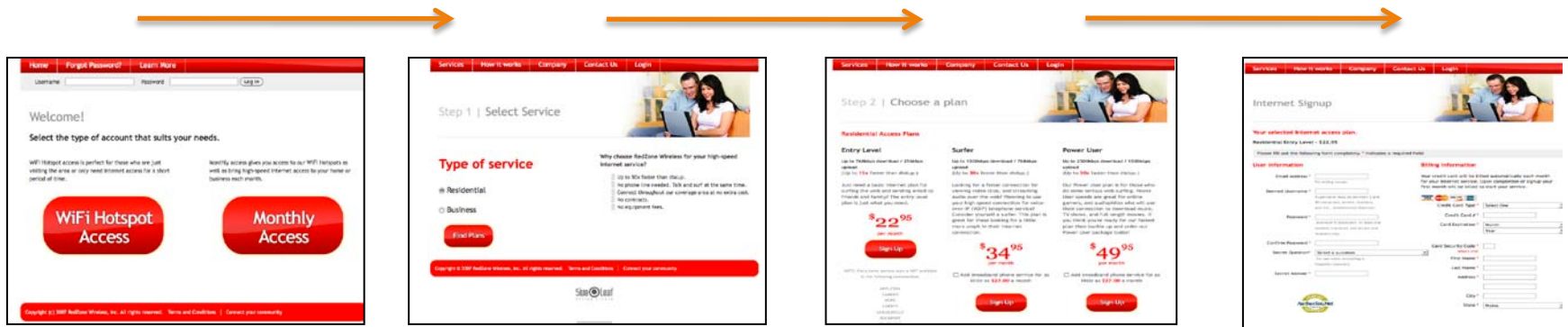
- Advertising
- Resellers / WISPs
- 3gOL
- In term up sell



Reduce Cost

Integrate and offer

- Zero operator intervention provisioning
- Subscriber self management
- Integrate service offerings with billing

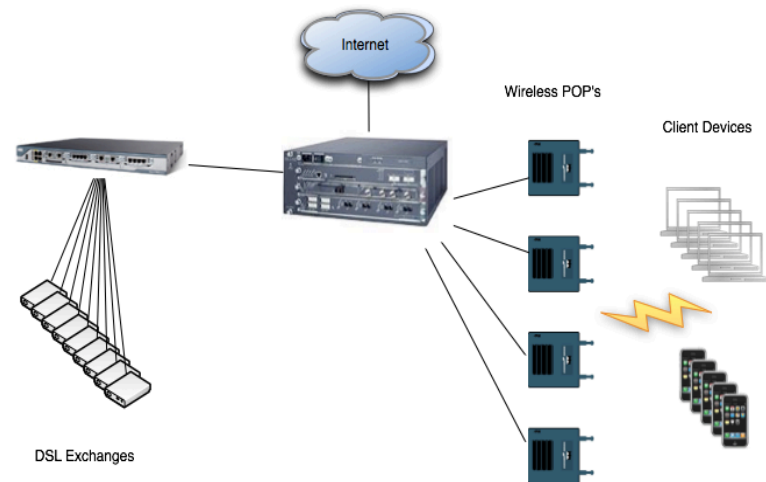


Quick Case Study

Rural Telco / Service provider

- Data Services
 - 1000 Fixed Broadband Customers
 - 4000 DSL Customers
 - Several hundred Dialup

Sample DSL + Wireless Deployment



Their Problem

Bandwidth usage is out of control

- 50% increased uplink purchase in 2010 > 10% more in January
- Customer satisfaction not improving
- No idea who is using what
 - Bandwidth
 - Protocol
 - Patterns

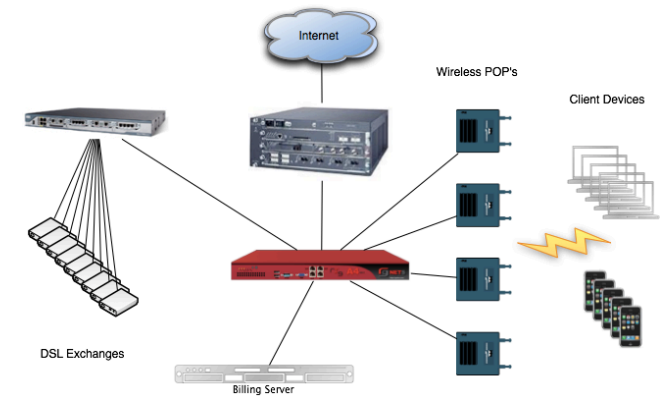
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Solution

Focus on Controlling

- Focus on introducing quota
 - Continually Profile and Classify Users
 - Establish Quotas
 - Integrate GB charges with Billing System
- Subscriber Self Management
- Tiered Services with Quotas

Sample DSL + Wireless Deployment



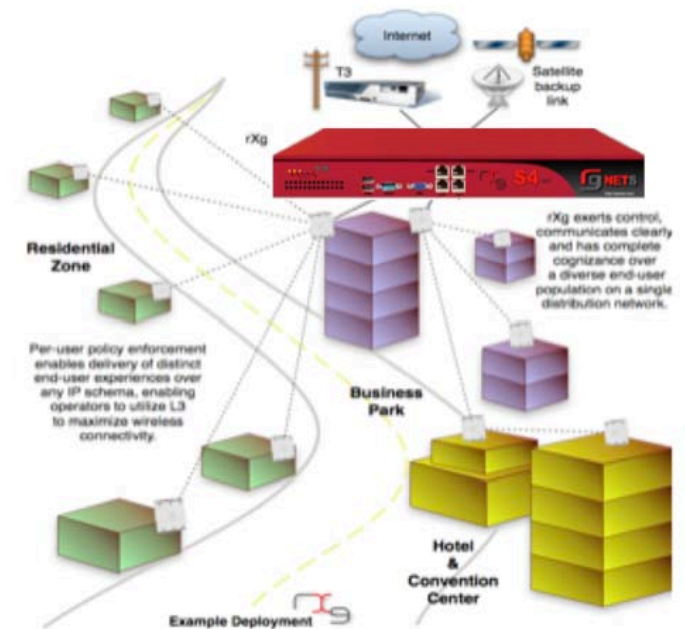
Service	Downstream Speed	Monthly Bandwidth Usage Allowance
Basic	Up to 768 Kbps	20 GB
Express	Up to 1.5 Mbps	40 GB
Pro	Up to 3.0 Mbps	60 GB
Elite	Up to 6.0 Mbps	80 GB

← Your service →

why rXg

rXg is the first affordable *policy* based gateway for operators of small to medium sized RGNs

- full featured
- self contained
- affordable
- scalable
- expandable



beyond legacy service offerings with policies

operators of RGNs are turning to *policy* based networks, enabling:

- premium services
- advertisements
- abuse containment
- fairness controls
- content control
- subscriber self management
- location based services
- increased device support

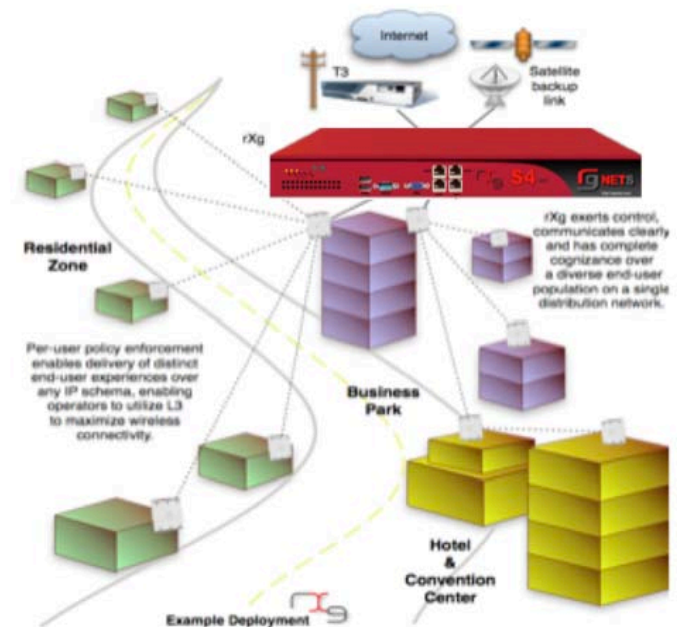


DPI Company's claimed their products as Policy Enablers

multi-use RGNs

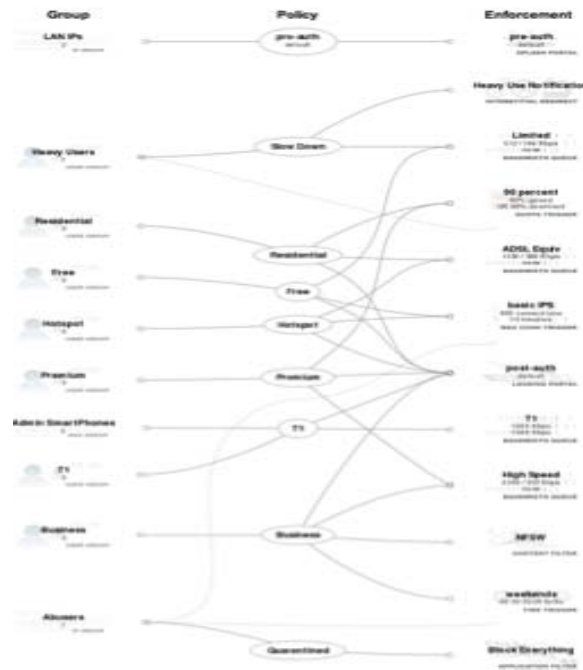
RG Nets markets policy based gateways for service providers operating revenue generating broadband access networks

- revenue generating networks who serve
 - subscribers
 - public services
 - guest
 - reseller



what is a *policy* based gateway

policy based gateways integrate enforcement rules to service plans that define individual or group user experience



enforcement rules

enforcement rules of a *policy* based network

- subscriber data quotas
- precise bandwidth profiles
- protocol priority assignment
- subscriber priority assignment
- content filters
- multiple captive portals
- web experience manipulation
- forced browser redirects
- web caching
- rule violation detection
- event triggers



policy enabling platforms

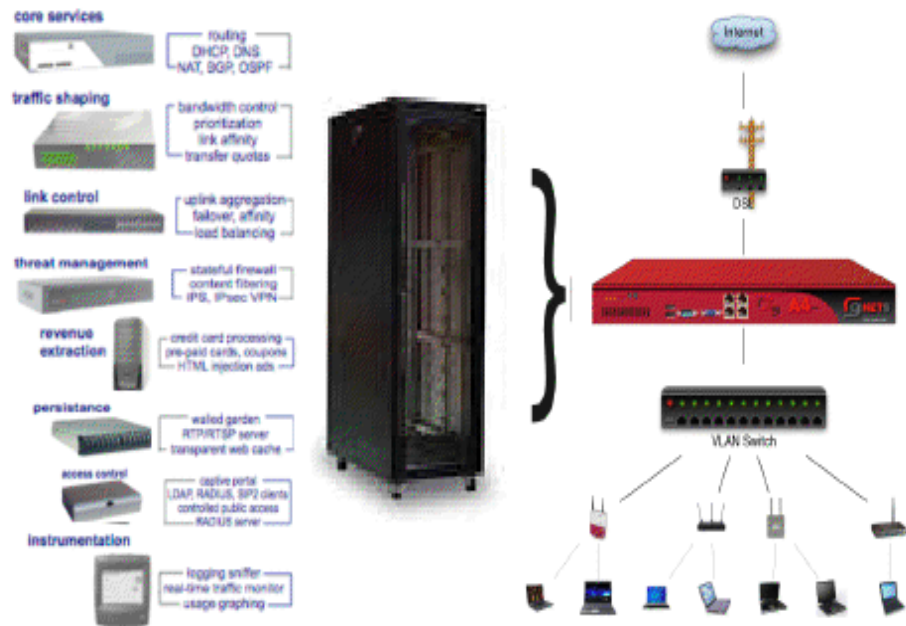
operators of *policy* based networks require tools that enforce rules over the user experience

- web server
- aaa server
- database server
- dpi switch
- payment gateway
- traffic shaping appliance
- uplink aggregator
- core network servers and routers
- storage networks
- network monitoring system



rack collapse

rXg collapses *policy* control enablers into a singular device

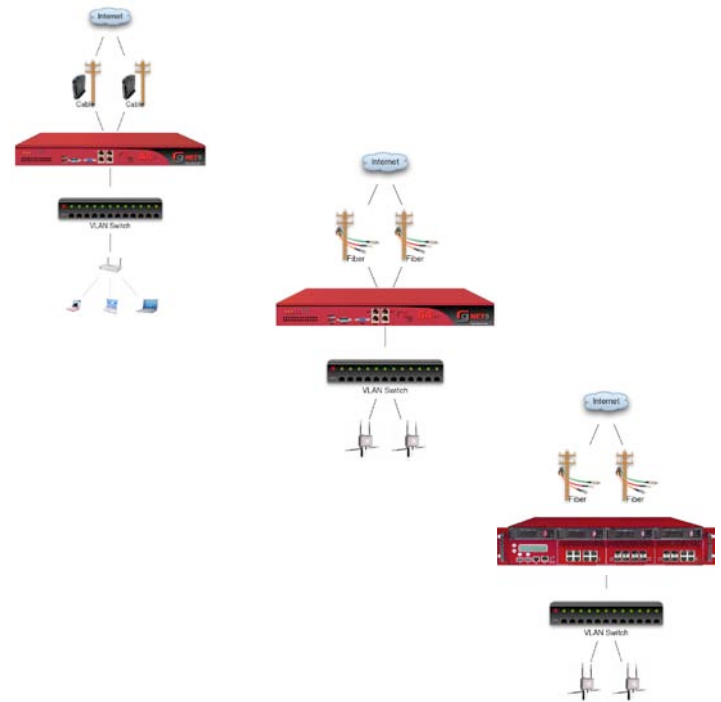


additional obvious benefits in capex, opex and reliability

deployment examples

single gateway deployments for low cost service delivery

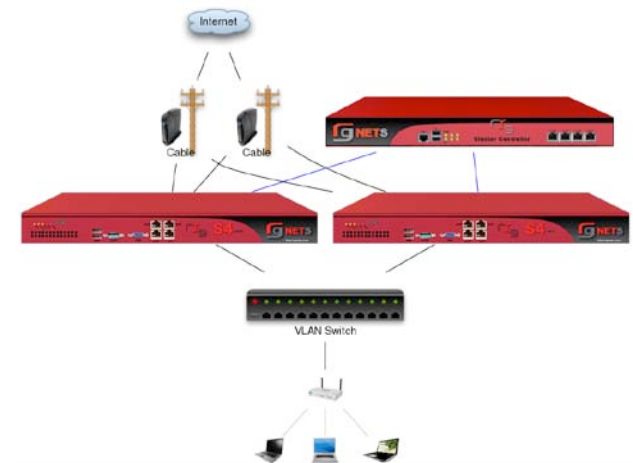
- A4 mk ii
 - 50 – 250 Simultaneous users
 - 25 – 100 Mbps Sustained / Peak
- S4 mk ii
 - 500 – 1000 SUL
 - 100 – 250 Mbps Sustained / Peak
- Q5 mk ii
 - 1000 – 2500 SUL
 - .5 – 1.5 Gbps Sustained / Peak



deployment examples

larger and / or high availability networks with central control

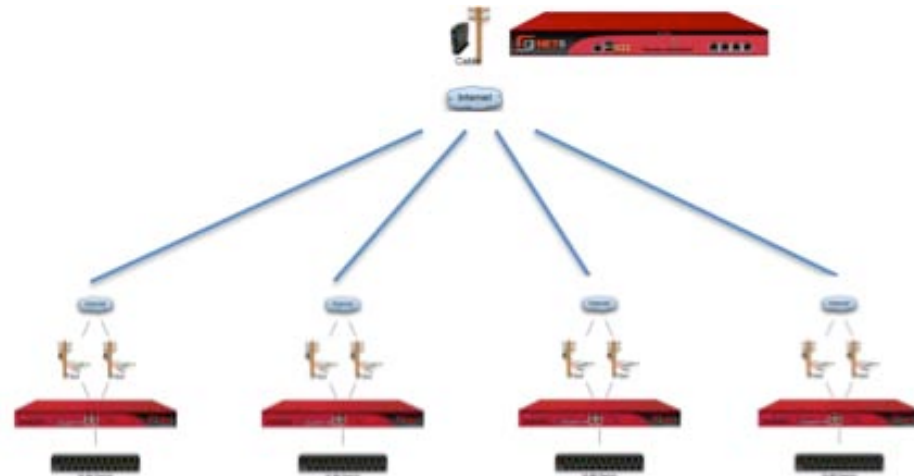
- multiple gateways
 - multiple gateway solution
 - shared Simultaneous User Licenses
- cluster controller
 - consolidated rXg database
 - load balancing
 - failover



rXg fleet management

centralized rXg control over geographically segregated rXg visitor gateways

- central monitoring and reporting
- local or central billing
- local or central authentication
- local or central captive portals
- local rXg policy enforcement



RG N

Gateways enabling policy based networks

Application based

Application-based traffic optimization uses the properties of each network protocol to provide the minimum bandwidth that guarantees acceptable quality.

Bulk file transfer applications are given the lowest priority since they are typically non-interactive and long-lived.

one- way streaming media like YouTube[®] may be next in priority and

an interactive application such as VoIP / Social Media would have the highest priority.

More analysis

Recent Heavy Users Summary

First name	Last name	Email	Login	MAC	Usage Down	Usage Up
756	Levin	belalevin@gmail.com	756levin4485	00:25:d3:8d:f0:b8	6.29 GB	3 GB
2350	SO	yoojin227@gmail.com	2350so0803	e8:39:df:2a:5e:65	6.24 GB	40 MB
2432	Diaz	diazpuebla@hotmail.com	2432diaz8351	b8:ff:61:33:57:3c	5.58 GB	9 MB
752	vasconcellos	accioli@accioli.com	752vasconcellos1557		5.12 GB	37 MB
2237	santiago	szirsantiago@hotmail.com	2237santiago2901	78:e4:00:5f:f8:a6	5.03 GB	64 MB
1555	Jurayev	master-001@live.com	1555jurayev2924	00:24:2b:c1:09:34	4.53 GB	116 MB
756	Levin	belalevin@gmail.com	756levin3992		3.85 GB	3.91 GB
2825	heskin	mike.heskin@konamed.ie	2825heskin8370	78:e4:00:a2:9d:bc	3.17 GB	62 MB
1741	HARIR	isphana.harir@hotmail.fr	1741harir0625	0c:ee:e6:cb:aa:83	3.04 GB	78 MB
1152	Goi	dan_dias@uol.com.br	1152goi7368	00:17:f2:46:51:79	2.88 GB	1.2 GB
4044			4044			