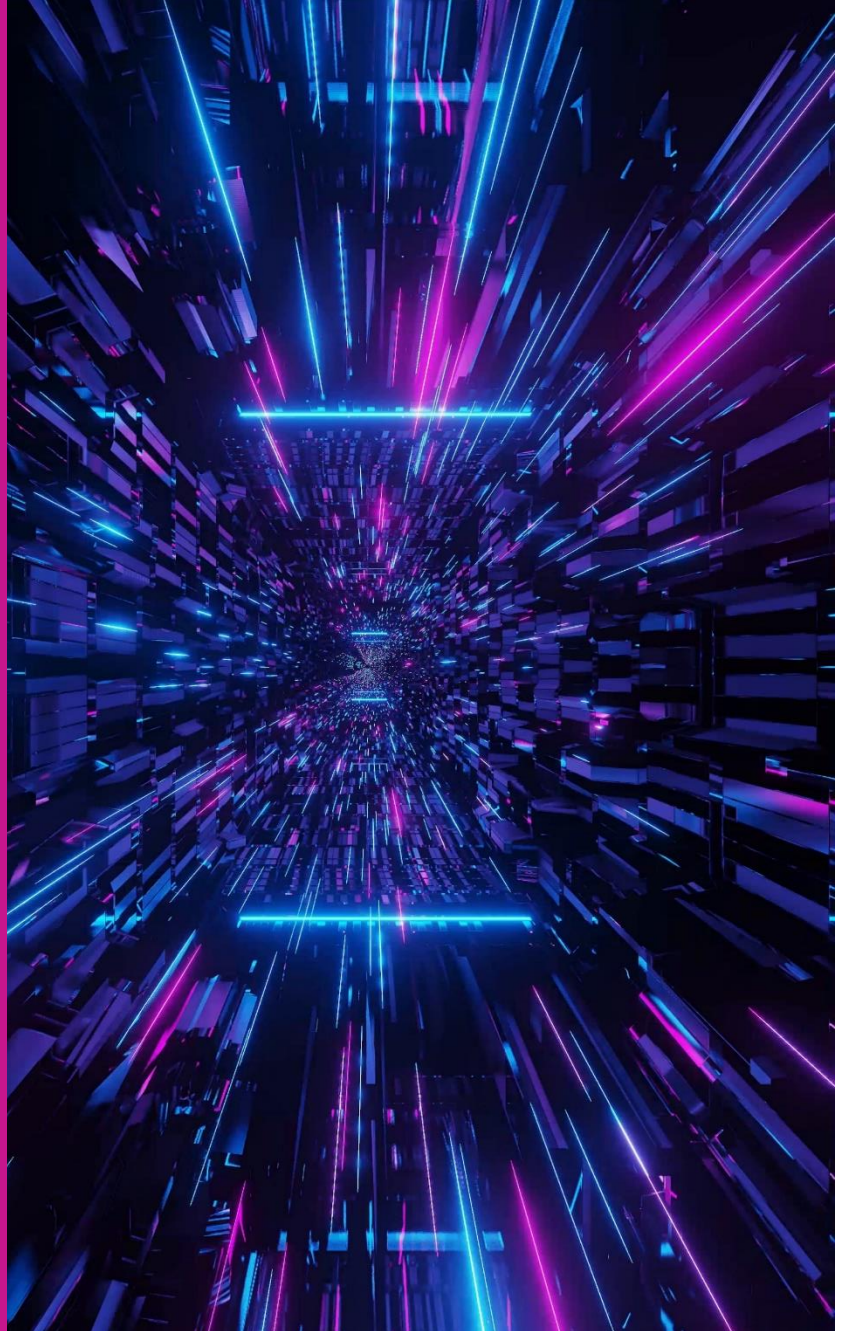




Paraqum Technologies provides cutting-edge, high-performance product and solutions for Network Traffic Analysis and Control

PARAQUM
CeyGalaxy



Paraqum CeyGalaxy is a network analytic and control solution that analyzes traffic going through different branches and generates detailed branch/link/network oriented reports for in-depth analysis.

Application-aware Bandwidth Management Device

Business Challenge

Today, more and more businesses globally are relying on digital infrastructure to thrive their businesses to the next level. Business critical software are largely adopted by companies to perform business transactions with multiple stakeholders including customers. Assuring a seamless end user experience for these applications is critical to ensure productivity and efficiency of the business. IT challenge is to ensure guaranteed service levels are maintained in order to create a superior experience for its users.

Wide Area Network and Internet are indispensable resources for any organization which has larger geographic coverage over the country or globally. The responsibility of providing the required quality of experience to all employees within an organization and its customers, lies on the hands of the IT/Network administrators. Poor quality can adversely affect staff productivity and can also reflect on the company image on the minds of customers.

When organizations expand, the number of branches multiply and the Wide Area Network (WAN) becomes more complex. As a result, sustaining the network functionality becomes an even more challenging task for the IT/Network Administrators.

This is no longer limited to monitoring whether a particular link is active or not, but entails answers to a range of questions like,

- Is there any congestion in the network?
- Do key business critical applications get enough bandwidth?
- What is the Quality of Experience (QoE) for employees and customers who access different applications through branches?

As network keeps expanding, there is a critical need to see what is happening in the main Internet link and branch links as well as the requirement to know

- Is there a congestion in a particular branch link and why?
- Are two branches of similar sizes behave differently with reference to bandwidth usage?
- Who is using which applications?
- Which applications are consuming most Bandwidth?
- Do business critical applications get priority?

Each of the above has significant revenue and expenditure impact: increasing bandwidth pushes monthly recurrent expenses higher and also substandard perceived Quality of Experience reflects on the company's ability to deliver a quality customer experience.

Capacity Planning

Maintaining a WAN is costly. So is dedicated Internet Access. Every new branch link adds to the recurrent cost. How can an organization do capacity planning based on actual traffic data? Paraqum CeyGalaxy can help to know when is the right time to increase the bandwidth of main Internet link or branch link. Bandwidth optimizations in each branch link can significantly delay unnecessary increase of link bandwidth leading significant cost savings. It is important that every organization gets the best use of these costly resources and Paraqum CeyGalaxy can help the organization achieve this task.

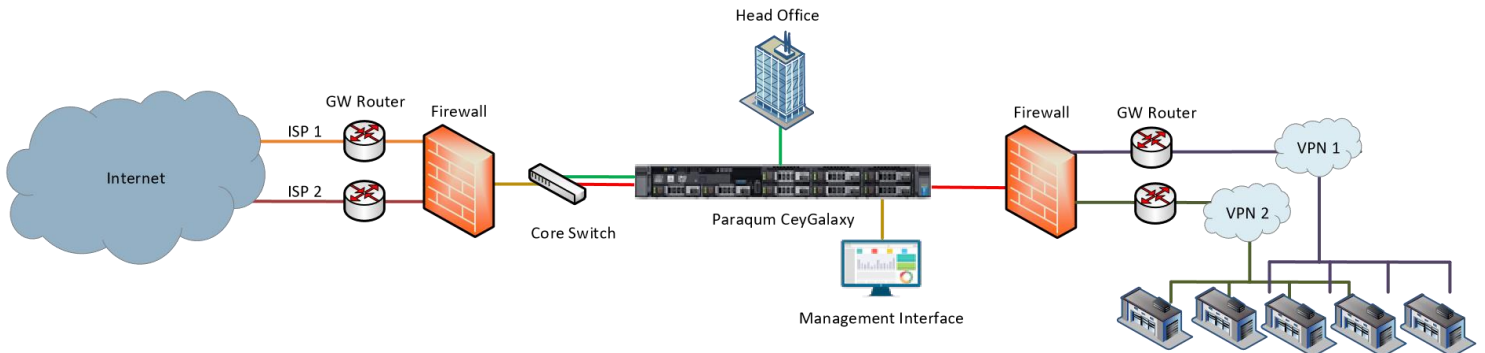
Paraqum CeyGalaxy is a unique product which sits transparently between your internal and external gateways and can provide answers to aforementioned questions in a smart dashboard in an easy to follow graphics in real-time. Administrators will be able to see all the branches in a geographical live heat map which shows the network status and drill down to details by just clicking on any branch. The unique ability to visualize the complete network (both Internet and WAN links) with the provision to allow each branch to view their own network traffic with just one centralized equipment differentiates us from our competitors.

Product Overview

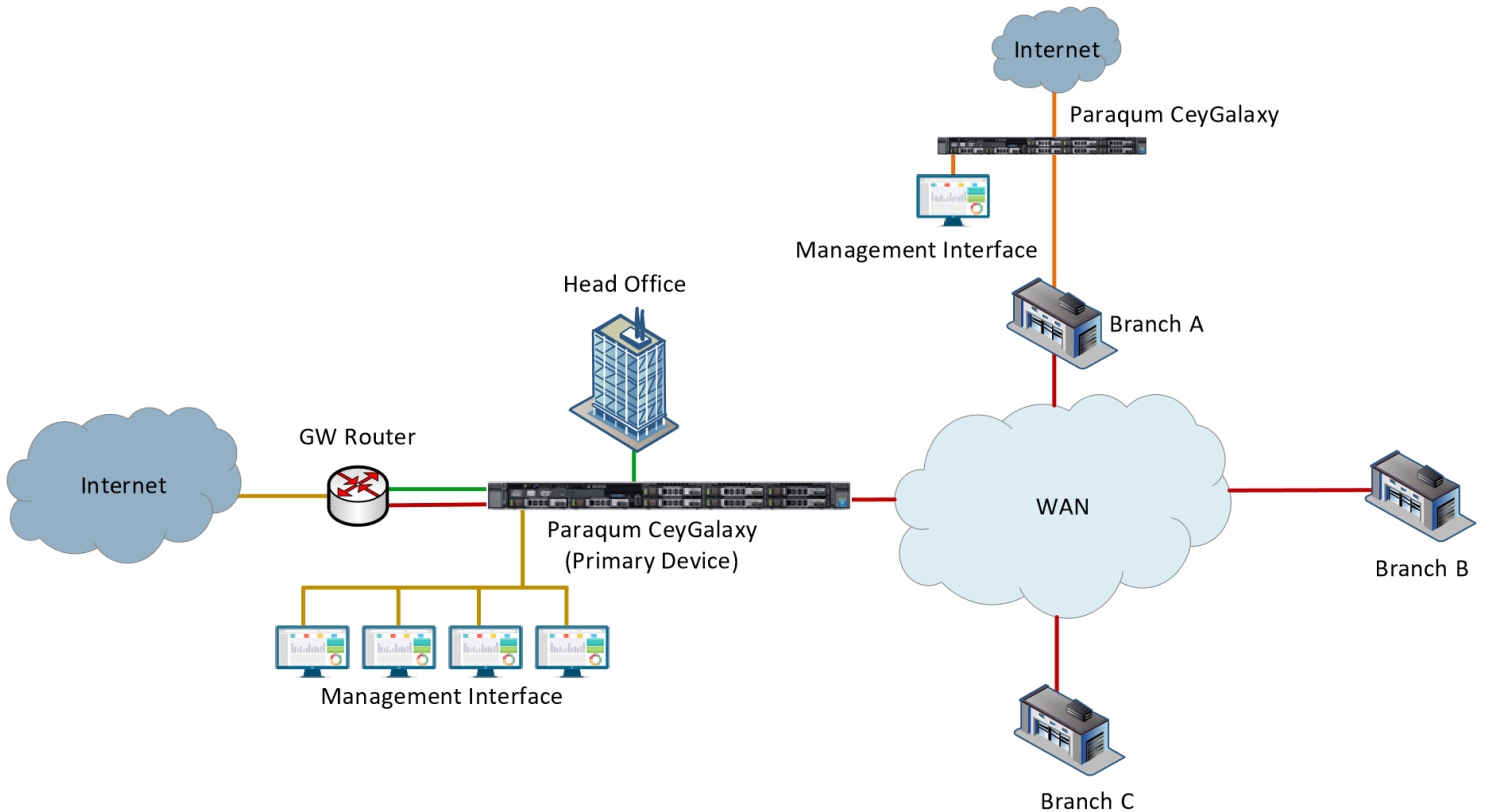
Paraqum CeyGalaxy is a network bandwidth management device which can be used to inspect, analyze and enforce rules to get the desired productivity in branch network environments. It can be used to monitor the Application usage of the complete network and Data usage of individual users and branches in real time and enforce rules to optimize. It also allows you to get the highest Quality of Experience (QoE) for critical cloud enabled services and network applications. This is done through state-of-the-art traffic shaping algorithms which allow complete network link utilization, offering the best QoE for all applications. Paraqum CeyGalaxy supports Virtualization that would allow a service provider to provide traffic shaping as a service to multiple clients using a single device.

Configuration

Branch Environment with a shared Internet connection



Centrally controlled Branch Environment with multiple devices



Key Features

- Application-aware traffic shaping based on state-of-the-art Paraqum Deep Packet Inspection (DPI) Technology
- Create separate profiles for branches/divisions based on IPs or Subnets
- Real-time traffic visualization of branches
 - With 1ms time resolution
 - Traffic bandwidth by applications, users, sources and destinations
 - Top sources, destinations and applications contributing to bandwidth consumption
 - Traffic visibility based on live sessions
 - IPv4 and IPv6 traffic visualization and application decomposition in each.
 - User identification through various authentication mechanisms such as AD, LDAP, RADIUS, DHCP
 - Visibility of URLs
 - Based on VLAN, IP address (single or group, random or subnet)
 - Tunnel Support for VLANs, MPLS, QinQ, L2TP, GRE
- Geographical analysis of each branch or divisions comparing bandwidth usage and sessions.
- Bandwidth controlling policies
 - Block / allow traffic
 - Rate controlling based on maximum and guaranteed bandwidth limits
 - Prioritize traffic based on user preference
- Uplink and Downlink bandwidth controlling based on
 - Branches
 - Individual users (Source IP)
 - User groups (Subnet)
 - Destination IPs
 - Layer 7 applications
 - Services
 - URLs
 - Protocols
 - VLAN
 - Combinations of above parameters
- Quality of Service enforcement of the branch networks
 - Priority for business-critical applications
 - Guaranteed and maximum bandwidth limits
 - Dynamic adjustment of guaranteed and maximum bandwidths
- Multi-level shaping support for advanced traffic shaping [Shaping Tree – parent->child]
- Time based policy enforcement
 - One off or periodic schedules
 - Different policies for within and outside given time schedule
- Advanced Quota Management System
- Shared shapers to control aggregate bandwidth of applications, services and/or URLs
- DSCP marking to support priority enforcement in VPN.
- Branch Monitoring and Alert Generation
 - Create Alerts and set thresholds based on Uplink/Downlink bandwidth, Sessions per second and Packets per second.
 - Create Alerts to monitor
 - Branches
 - Individual users (Source IP)
 - User groups (Subnet)
 - Destination IPs
 - Applications
 - Services / Ports
 - VLANs
 - Combinations of above parameters
 - Actively monitor branches, ATMs, Servers, etc. on the branch network
 - Supports multiple alerting mediums (SMS, Email and Slack)
 - Generate and visualize Alerts and Threshold reports
- Centralized management system for branch environments
- IPFIX based session logging
- SNMP based network monitoring
- Session Quality Index (SQI) - Application Quality of Experience (QoE)
- Custom signature and category creation
- Application and URL based customizable, detailed reporting for branches
 - Web based and downloadable reports
 - Scheduled reports to designated persons through email
 - Archiving period for sessions based on exact user requirements

Advanced Features

- Support for Distributed Traffic Control in Branch Environment
 - Centralized policy creation and application to other branches (could be in geographically different regions – E.g. head office and branch setup with distributed Internet Access)
- High-Availability Cluster for active-active/active-standby configurations or multiple branch configuration with automatic syncing of shaping policies
- Advanced troubleshooting features
 - Traffic peak analysis
- Syslog integration for external logging of session details
- Advanced REST API for external system integration
- Multi-level system users for access control
 - With different privileges or roles
 - User defined roles

Web-based Management Interface



Hardware Specifications

Model Number	PCG100	PCG500	PCG1000	PCG1000-R	PCG10K-R
Max Bandwidth	100M	500M	1G	1G	10G
Max Session Count	256k	1M	1M	4M	40M
Default Inline Links	1	2	2	2	2
Network Interfaces	5x1GBase-T	6x1GBase-T	4x1GBase-T		4x10GBase-SX
Management Interface	1 x 1GBase-T	1 x 1GBase-T	2 x 1GBase-T, RS-232 with DB-9		
Fail Safe Bypass	Yes	Yes	Yes	Yes	Yes
Device Management	HTML (Web based)		HTML (Web based),		Console
Storage	1TB	1TB	1TB	1TB with RAID1	
Redundant Power Supply	No	No	No	Yes	
Power Supply	100-240 VAC 50-60Hz		110-240 VAC 50-60 Hz		
- Power Rating	36 W	220 W	350W		1400W
- Redundancy	No	No	No	Dual Hot Pluggable (1+1)	
Form Factor	1U Half Rack	1U Full Rack	1U Full Rack		2U Full Rack
Dimensions					
- Depth	17 cm	33 cm	60 cm		71.5 cm
- Width	23 cm	48.3 cm	48.3 cm		48.3 cm
- Height	4.8 cm	4.38 cm	4.38 cm		8.68 cm
Weight	1.2 kg	7.5 kg	18 - 25 kg		25 - 40 kg
Certification	RoHS, CE, FCC Class A, UL		RoHS, CE, FCC Class A, Canadian ICES-003		
Expansion					
Maximum Inline Links					
- 1G Copper	1	2	4	4	16
- 1G Fiber			3	3	12
- 10G Fiber			2	2	8

Max Storage Capacity	1 TB	1 TB	32 TB	24 TB with RAID5	128 TB with RAID5
License					
Bandwidth Selection	20 Mbps, 30 Mbps, 40 Mbps, 50 Mbps, 60 Mbps, 70 Mbps, 80 Mbps, 90 Mbps 100 Mbps, 200 Mbps, 300 Mbps, 400 Mbps, 500 Mbps, 600 Mbps, 700 Mbps, 800 Mbps, 900 Mbps 1 Gbps, 2 Gbps, 3 Gbps, 4 Gbps, 5 Gbps, 7Gbps, 10 Gbps				
Duration Selection	1 Year, 3 Year, 5 Year				
Logging	Summarized logging, Full Session logging depends on the storage				
Supported link count	16				
Maximum Cluster Units	256				

Note: Custom specifications can be accommodated based on special requirements.



Contact Information

For more information about the product, please contact us.

Head Office:

Sales: sales@paraqum.com

General Inquiries: info@paraqum.com

Paraqum Technologies Inc.
2208 Heather Ridge Dr,
Flower Mound,
TX 75028,
USA.
Hotline: +1-469-405-2622

America Region:



Sales: sales-americas@paraqum.com

General Inquiries: info-americas@paraqum.com

SkyNet Communications LLC.
101 E. Mendenhall St. Suite C.
Bozeman, MT 59715
United States

Hotline: +1-406-451-7104

Oceania Region:



Sales: sales-oceania@paraqum.com

General Inquiries: info-oceania@paraqum.com

Paraqum Australia,
234/139 Cardigan Street,
Melbourne, VIC 3053
Australia

Hotline: (03) 9118 5995 / +61 3 9118 5995

Research and Development Office:



Paraqum Technologies (Pvt) Ltd.,
106, Bernard Botejue Business Park,
Dutugemunu Street,
Dehiwala 10350,
Sri Lanka

Hotline: +94 11 2099700/ +94 11 2099800