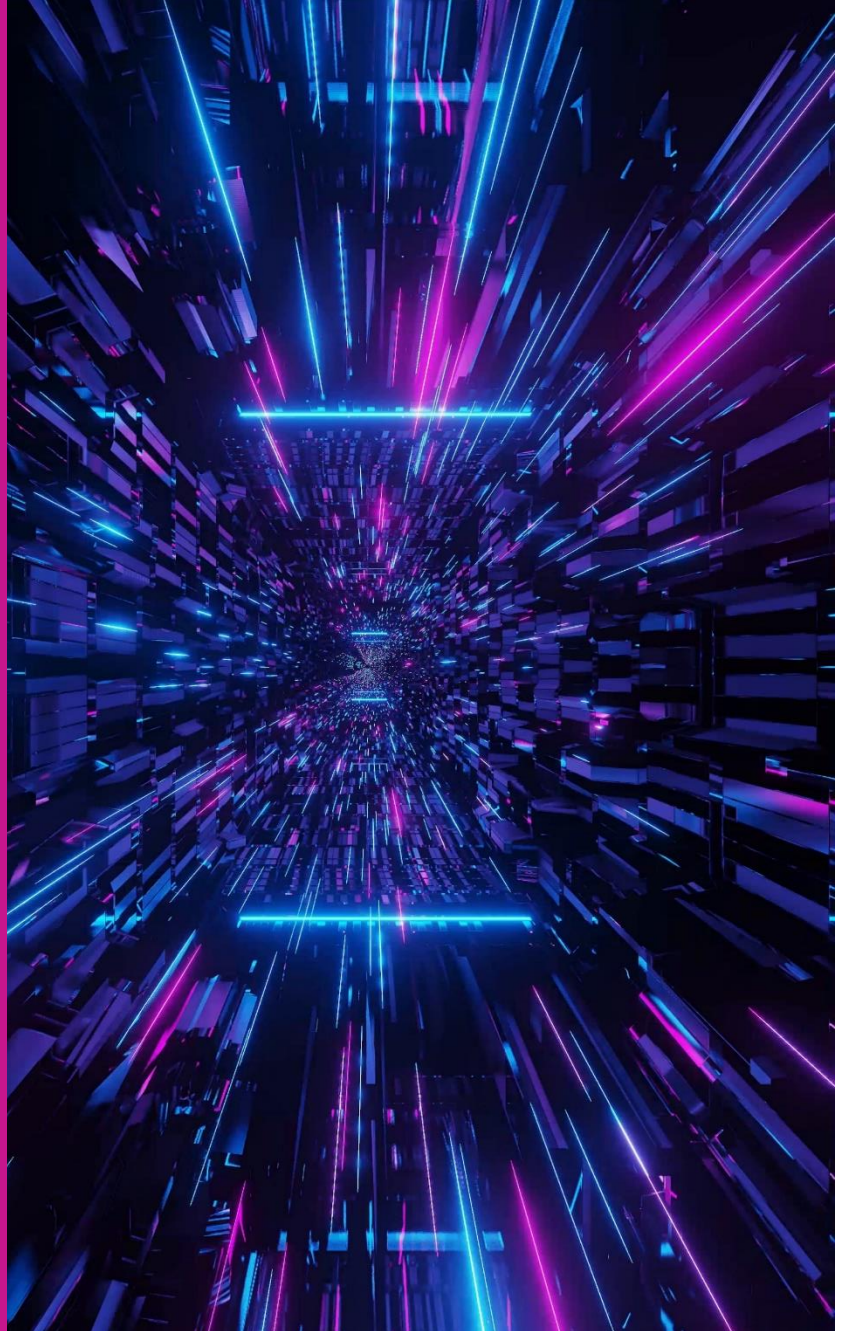




Paraquum Technologies provides cutting-edge, high-performance product and solutions for Network Traffic Analysis and Control

PARAQUM  
**CeyMarshal**



Paraquum CeyMarshal is a network bandwidth management device which optimizes bandwidth usage by prioritizing network traffic and controlling applications/users as per requirement. Paraquum CeyMarshal enables highest Quality of Experience (QoE) for critical cloud enabled services and network applications.

## 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 any business.

Customer interaction (through Video Conferencing or VoIP), communication in the supply-chain, communication in the sales and marketing, all these happen over the internet. In the case of remote technical services, the technical staff needs to have a high quality - high speed link to carry out their activities. The gradual shift to cloud-based services forces employees to use Internet for almost every day today activity involved in the work environment, from use of office productivity software to other web-based applications.

As a businessperson, are you satisfied with the Quality of Experience (QoE) your employees or customers enjoy in using the internet? What factors affect the QoE?

- Bandwidth: A costly resource. Can you improve the QoE without increasing the bandwidth?
- Priority of Applications running: Which ones are business critical and which ones are not (such as Social Networking or Video Streaming)?

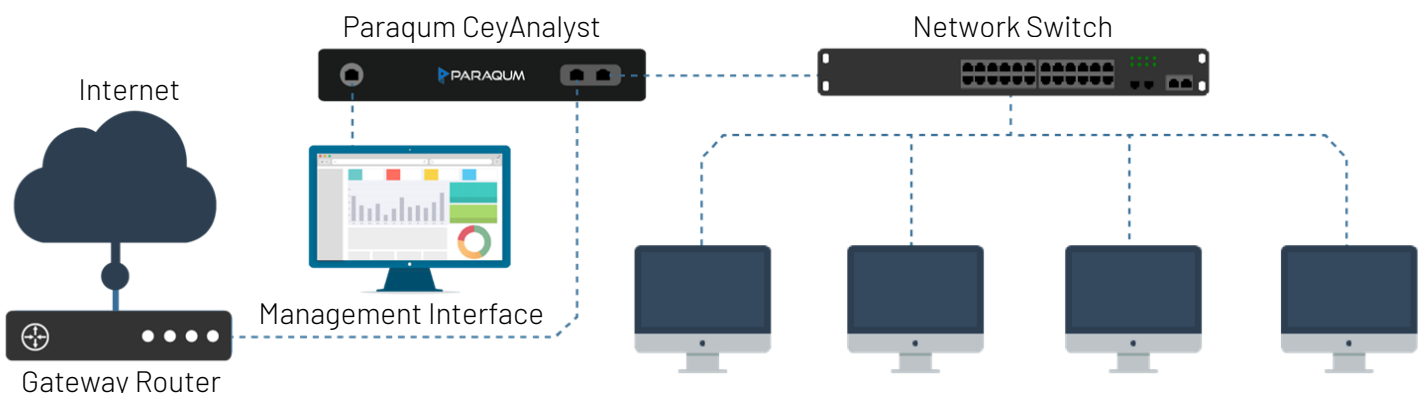
Some applications naturally consume more bandwidth than others and seek to consume all available bandwidth to provide the best QoE to whoever is using that application (i.e. HD video streaming). The result of such an uncontrolled usage? Everyone else using the internet will be deprived of the required bandwidth and will start to experience low QoE which would include dropped voice-quality of a VoIP session with a supplier or dropped frames in a video conference session with an important client. These are not losses tolerable by a company operating in a highly competitive business environment.

### Product Overview

Paraquum CeyAnalyst is a network analytic device which can be used to inspect, analyze and troubleshoot the network at millisecond level sensitivity. It uses state-of-the-art "Deep Packet Inspection" technology to provide unprecedented real-time visibility into high speed networks up to the application level. It can be used to measure the bandwidth and Quality of Service parameters of a network link at many granular levels along with the real-time Application usage of the network and Data usage of each user. The device can be deployed as a passive probe (tapped device) or as an in-line device.

### Typical Configuration

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. Paraquum CeyGalaxy supports Virtualization that would allow a service provider to provide traffic shaping as a service to multiple clients using a single device.



## Key Features

- Application-aware traffic shaping based on state-of-the-art Paraquum Deep Packet Inspection (DPI) Technology
- Real-time traffic visualization
  - 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)
- Bandwidth controlling policies
  - Block / allow traffic
  - Rate controlling based on maximum and guaranteed bandwidth limits
  - Prioritize traffic based on user preference
- Firewall functionality based on Source/Destination IPs (L3), Ports/Services (L4) and Applications (L7)  
**[Note: Content based firewall features such as malware is not supported]**
- Uplink and Downlink bandwidth controlling based on
  - Individual users (Source IP)
  - User groups (Subnet)
  - Destination IPs
  - Layer 7 applications
  - Services
  - URLs
  - Protocols
  - VLAN
  - Combinations of above parameters
- Quality of Service enforcement
  - Priority for business-critical applications
  - Guaranteed and maximum bandwidth limits
  - Dynamic adjustment of guaranteed and maximum bandwidths
- Time based policy enforcement
  - One off or periodic schedules
  - Different policies for within and outside given time schedule
- Advanced Quota Management System
  - Based on users, applications, source and destination IPs, services and URLs
  - Different policies for within and outside quota (i.e. after the quota is fully consumed)
  - Combination with time-based scheduling (i.e. quota for user defined time periods)
  - Dynamic adjustment of quota limits including reset of quota
  - Quota usage statistics
  - Time based expiry of quota limits (E.g. daily, weekly or monthly)
- Shared shapers to control aggregate bandwidth of applications, services and/or URLs
- Multi-level shaping support for advanced traffic shaping
- Customizable Reporting module
  - Web based and downloadable reports
  - Scheduled reports to designated persons through email
  - Archiving period for sessions based on exact user requirements
- High-Availability Cluster for active-active/active-standby configurations or multiple shaper configuration with automatic syncing of shaping policies
- Advanced troubleshooting features
  - Traffic peak analysis based on users, applications etc.,
- 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
- Device monitoring
  - Alerts on device status
- Custom signature and category creation
- SNMP based network monitoring
- IPFIX based session logging
- Burst control
- Session Quality Index (SQI) - Application Quality of Experience (QoE)
  - Computed using retransmission rates, packet losses and round trip time (RTT) for a session
  - Identifies the quality of sessions from worst to best on a scale of 0 to 10
  - Latency monitoring
  - TCP retransmission monitoring
  - Application-level indexing
  - Live and past session indexing
- Rule statistic monitoring

## Web-based Management Interface



## Hardware Specifications

Model Number	PCM100	PCM500	PCM1000	PCM1000-E	PCM1000-R	PCM10K-R
Max Bandwidth	100M	500M	1G	1G	1G	10G
Max Session Count	256k	1M	1M	1M	1M	4M
Default Inline Links	1	2	2	2	2	1
Network Interfaces	5x1GBase-T	6x1GBase-T	6x1GBase-T	4x1GBase-T		2x10GBase-SX
Management Interface	1 x 1GBaseT	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	Yes
Device Management	HTML (Web based)			HTML (Web based), Console		
Storage	16GB SATA SSD	1TB SATA HDD	1TB SATA HDD	1TB SATA HDD	1TB SATA HDD with RAID1	
Redundant Power Supply	No	No	No	No	Yes	
Power Supply	100-240 VAC 50-60Hz			110-240 VAC 50-60 Hz		
-Power Rating	36 W	220 W	220W	250W	350W	
-Redundancy	No	No	No	No	Dual Hot Pluggable (1+1)	
Form Factor	1U Half Rack	1U Full Rack	1U Full Rack	1U Full Rack		
Dimensions						
-Depth	17 cm	33 cm	33 cm	60 cm		
-Width	23 cm	48.3 cm	48.3 cm	48.3 cm		
-Height	4.8 cm	4.38 cm	4.38 cm	4.38 cm		
Weight	1.2 kg	7.5 kg	7.5 kg	18 - 25 kg		
Certification	RoHS, CE, FCC Class A UL			RoHS, CE, FCC Class A, Canadian ICES-003		

### Expansion

Maximum Inline Links of each type (with Bypass)						
- 1G Copper	1	2	2	4	4	4
- 1G Fiber				3	3	3
- 10G Fiber				1	1	1
Max Storage Capacity	1 TB	1 TB	1 TB	16TB	24 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	4

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



## Contact Information

For more information about the product, please contact us.



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