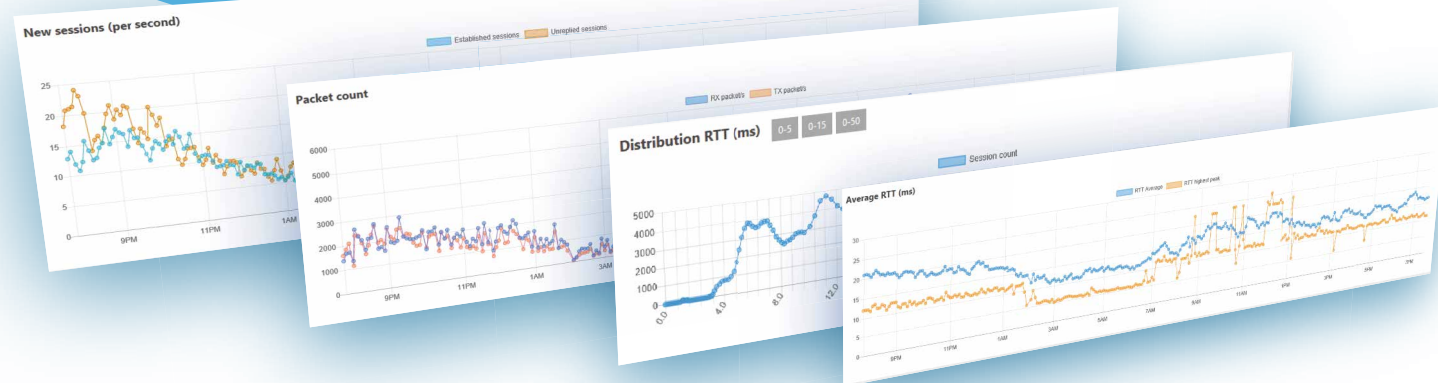


# EcoQoE, Shortlist и Clickstream

Innovative solutions for subscriber retention and service promotion



World network solutions vendor



**EcoQoE** is a software component compatible with the Service Gateway Engine series (EcoNAT, EcoFILTER, EcoBRAS) and the DPI complex of the RDP.RU company. This product is designed to collect statistics data used to evaluate the Quality of Experience (QoE) and to compile metrics for further analysis of user experience and adaptive management of the quality of services provided.

## Subscriber Base Retention

The main reason for subscriber to outflow is dissatisfaction with the quality of services. Perception of the service quality depends on factors beyond the provider control such as: the Wi-Fi range is overloaded, the CPE-device is outdated, the malware which declines the computer performance is set, and so on. The EcoQoE allows to provider to look through the subscriber's NAT and to diagnose this kind of problem on the network segment. By finding out the potentially unsatisfied subscribers, provider can promptly take measures to keep them. As a rule, the for current subscriber base requires less expenditure and brings greater economic effect than attraction of the new subscribers. The less the subscriber outflow the higher provider's image!

## Previous Attempts to Solve the Problem and Their Limitations

- The Wi-Fi routers with the IP-SLA agent – the complicated solution, actually was suitable only for Green field projects (new network construction);

- Getting subscriber feedback – frequently subscriber leaves without any call to the support service of the provider;
- Installation of the TCP-probe including STB – does not reflect the shape of all subscriber devices in the household;
- Poll by calling all subscribers with quality control – expensive method, usually only annoying subscribers.

## Easy to Use

Install the EcoQoE in 3 steps:

1. Mount RDP.RU sensors for all incoming traffic or some specific part of it (e.g. HTTP/HTTPS).
2. Deploy the database with the RDP.RU visualization on the server.
3. Integrate it with an existing OSS/BSS system to enrich data received from the sensors.

Sensor tracks the total number of packets, number of TCP retransmits (incoming and outgoing), delay between SYN ACK and ACK, and other parameters for each session. Metrics based on the collected data are used for further user experience analysis. Data visualization allows to discover easily if the response time increases and the speed decreases for specific subscriber. The subscribers can be grouped in many ways – by delay time, by access device, by network aggregation segment, by CPE type (if such an information is available in OSS/BSS) and so on.

**There's NO NEED to install any additional software and hardware on the subscriber's side!**

## Universal Mechanism

The EcoQoE complex is compatible with all devices, access technologies, and service models. On the one physical device can be used both QoE functionality and other features such as CG NAT, URL filtering, DPI. Also, QoE functionality can be used singly.

## Task Processing

- Discover subscribers with the considerable delay or with the great number of TCP packets re-sending → Notification to Campaign Management → Phone call to the subscriber.
- Discover Wi-Fi problem → Technician visits to replace Wi-Fi.
- Existing problem for the group of subscribers → Team of technicians visits to check node (for example, patch cord needs to be replaced or re-crimped).

## Shortlist и Clickstream

### *Monitor the subscriber loyalty by analyzing site surfing*

**Shortlist** is the feature that allows to specify list of resources (URLs) each visit of subscribers to which will be logged. Using this feature the subscriber's intention to change provider can be predicted if a rival provider URL is included into Shortlist.

**Clickstream** is the more general feature which providers log data collecting of all resources visited by subscriber during specific period of time. At the moment it is one of the best business tools. Subscriber surfs web-resources, provider monitor his visits and the using this information gets an idea of potential subscriber – service buyer to propose him the most effective solution.

To process Clickstream the modern methods, such a neural network which is taught by real events of subscriber outflow or purchase of additional service and can predict such an event in the future, are used. The individual proposal can be offered to the subscriber in many ways – phone call, mass text messaging, Telegram and Viber message and so on.

On the one physical device can be used simultaneously both Shortlist and Clickstream functionality and other features such as CG NAT, URL filtering, DPI. Also, Shortlist and Clickstream functionality can be used singly along with the QoE feature.

## Fast Response

Subscriber visits the rival site → Trigger: “subscriber visited rival site” → Signal to Campaign Management → Phone call to the subscriber.

Subscriber visits site where provider sells devices or content → Trigger: “subscriber is interested in products and services which can be sold by provider” → Personalized proposal for the subscriber.

## How to Subordinate a Company to Subscriber Loyalty Goals

- QoE effects on KPI of support service, operation department, and management.
- QoE data are integrated with OSS/BSS.
- QoE parameters are monitored from the subscriber's acquisition and during whole subscriber lifecycle.
- Monetize subscriber's interest in additional services.
- Work with outflow predictors from Shortlist.



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