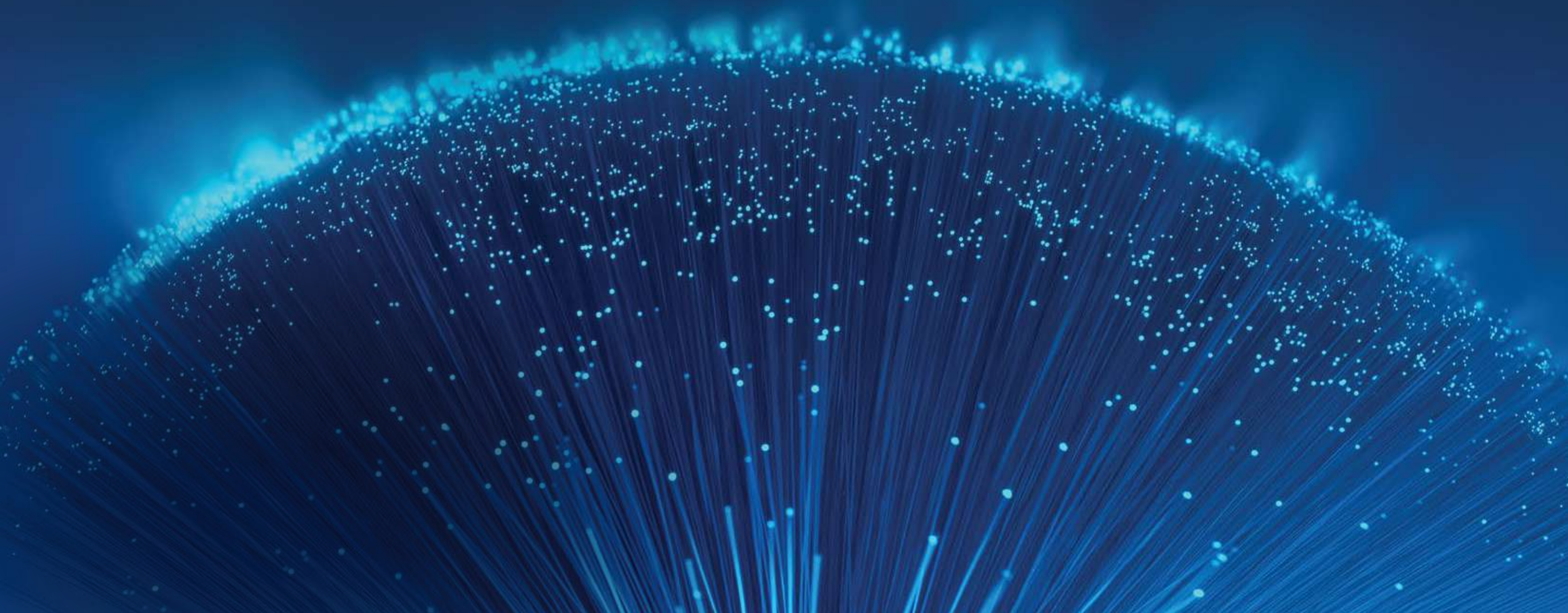




Connectivity through international  
cable systems.

IP Transit





## IP Transit

### Robust international connectivity through diversified international submarine cable systems.

The transfer of information in today's world has become a critical success factor for organizations and individuals. Transworld's IP Transit service offers a seamless communication channel that can satisfy all your local connectivity needs. We offer high performance premium CIR internet connectivity with no traffic congestion and guaranteed performance. Content on the internet is delivered to you via a secure, low latency and low packet loss carrier grade networks, ensuring information flow like never before.

Our state-of-the-art IP network enables rapid access to global content, so that in the rapidly changing information scenario you are always up to date with the latest.

#### Robust International Connectivity

- Diversified International Cable System paths – TW1/SMW5/SMW4/MENA, EIG, AAE-1, FLAG, etc.
- Diversified Upstream Connectivity - Middle East Bound - West Bound
- Redundant Routers for Upstream Connectivity
- Peering Diversity with International Providers
- Multiple 100G capacities available to cater different regions of the world

#### Low Latency Global Network

- Direct Connectivity to different operators from Karachi routed to Fujairah and Seeb over TW1 cable and SEA-ME-WE-4
- Further extension from Fujairah and Seeb till Tier-1 operators' routers in Europe and South East Asia on SMW4, FLAG, EIG, AAE-1, MENA etc
- Direct East Bound & West Bound routing over SEA-ME-WE-5 from Karachi bypassing TW1 cable for redundancy
- IP Transit, Private Peering & PNIs with Tier-1 operators
- Public peering with world's largest Internet exchange point and all major content and social network operators.
- Optimized routing from TWA international PoP at Frankfurt
- Virtual PoPs in France, Italy & Singapore

#### Google & Facebook Peering

- Direct Private Peering with Google and Facebook, ensures all traffic traverse direct link and served in minimal latency/hops
- Google Global Cache (GGC) and Facebook nodes in Karachi, Lahore and Islamabad
- GGC and Facebook Network Appliance (FNA) allows to serve content, primarily video, from the edge of network



## DOS Monitoring & Black hole Filtering

### Proactive monitoring of the network to quickly recognize security threats

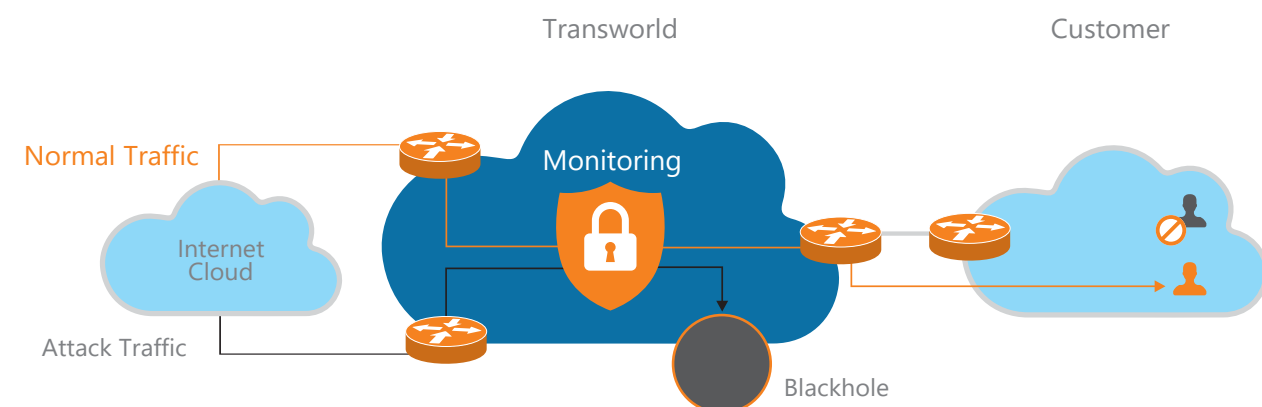
Transworld constantly monitors the network for denial of service (DoS Attacks) by leveraging always-on packet-level monitoring, AI analysis, and infrastructure-based enforcement and mitigation.

TWA's DDoS detection engine continuously monitors traffic from international ingress points and if an attack is detected, the malicious traffic is removed at the internet gateway site in a distributed fashion. The benefits of inspecting traffic at the packet level with the power of infrastructure-based enforcement, enables real-time, automatic mitigation of DDoS attacks.

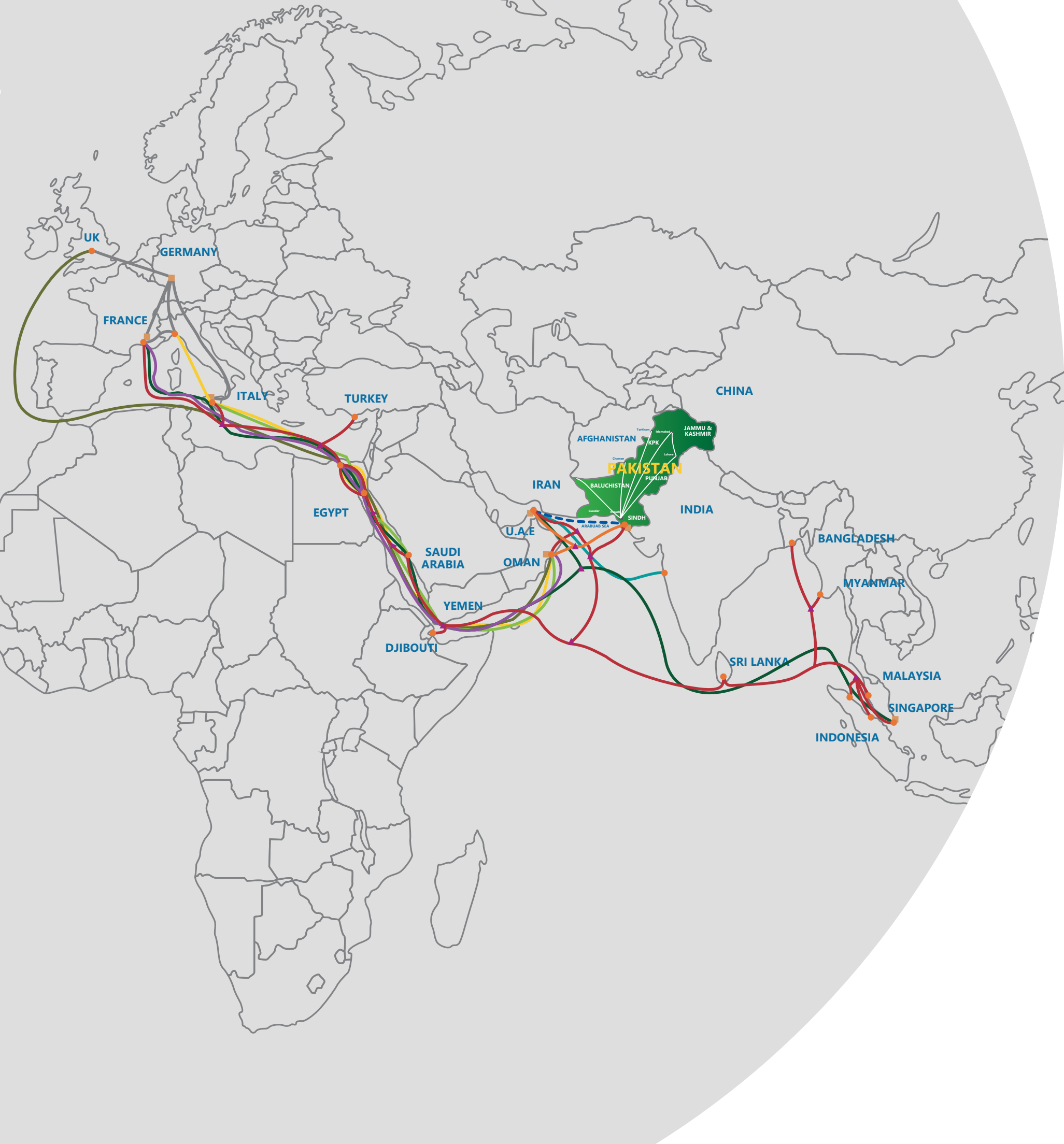
A modern approach to DDoS protection at scale. By leveraging packet level monitoring, it provides pervasive network visibility and proactively identifies attacks.

Blackholing a certain IP address effectively means diverting the flow of data to a different next hop i.e., Black hole Next-hop, where the traffic will be discarded. The result is that no traffic is reaching the blackholed IP and hence customer's other IP addresses and services are protected.

If Transworld identifies a major DoS attack on customer's network with malicious traffic going towards customer's particular IP address, customer is notified about the attack along with possible customer's IP address under attack and other relevant details.







# Key Benefits

**Own Private Network**  
Transworld is the only private carrier in Pakistan which has laid its own submarine cable for international connectivity which gives greater flexibility and control for network management and optimization. This results in quick turnaround time to cater to ever changing customer requirements and guarantees a world class service.

**Fully Restorable**  
Capacities are distributed across multiple cable systems and bandwidth switchover to other cable systems seamlessly in case of failure.

**Superior SLA**  
Industry-leading SLAs with penalty clauses that reflect the confidence we have in the reliability and performance of our network.

**Quick Access**  
Our peering with major international internet exchanges provide you close access to internet content at source with minimal hops and latency.

**Proactive Customer Support**  
Our dedicated customer services professionals at our dedicated Technical Assistance Centre monitor our network 24/7, so that we detect problems before you report them.

**Reliable Network**  
Our network is optimized for low latency, low packet loss and high efficiency. A look at the record shows that we have had least downtimes during the last few years of operations thus giving high quality and reliable service to our customers.





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