

FAIR USAGE OF THE OPEN INTERNET

OPEN INTERNET FCC RULING

The FCC recently determined that:

- Internet users must have access to all legitimate content made available on the Open Internet.
- Broadband Service Providers (BSPs), be they telecom network operators, cable operators, ISP's and/or content providers engaged in the provision of Internet access service shall not discriminate in transmitting lawful network traffic over an Internet user's broadband Internet access service.
- BSPs can develop and deliver new and specialized services (e.g., IPTV and VOIP) on their facilities as long as they do not negatively impact the Internet and competition.
- BSPs are able to deploy network and bandwidth management techniques that maintain reasonable Internet access quality of service executed in a competitive yet non-discriminatory manner.

The challenge posed by the FCC regulation to BSPs is how to ensure all subscribers receive their fair share of access bandwidth within the Open Internet framework. Furthermore, any viable network solution needs to be flexible and scalable in its service delivery, offering enhanced user quality of experience (QoE) while improving networking utilization efficiency.

As such, the technology framework for any viable Open Internet policy requires:

- Fairness at All Times for All User
- Dynamic Adaptability and Optimization
- Consistent Bandwidth Guarantees
- IP Quality of Service (QoS) Enforcements
- Service/Bandwidth Tiers
- Service/Bandwidth Abuse Mitigation

Meeting and exceeding the above objectives would resolve technical constraints of today's much overstressed Internet as well provide the needed capabilities to handle current and future bandwidth requirements.

ANAGRAN'S FAIR USE TECHNICAL FRAMEWORK

Anagran's Fair Use Technical Framework employs non-invasive dynamic IP Flow-State (IFS) technology to identify and manage Internet traffic in a manner that ensures transparent, equal, non-discriminatory access to online content and facilitates tiered service offerings. Furthermore, Anagran's technical innovations allow BSP's the ability to reduce overall network transport costs while ensuring the fair use and allocation of network bandwidth.

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Anagran's IFS technology includes innovations in flow classification, control, prioritization, delivery and management, as well as host (subscriber/user) equalization and behavioral recognition algorithms. IFS recognizes individual flows, routing the first packet of the flow and dynamically associating state. All remaining packets in the flow are switched using this state information. In addition, Anagran captures and maintains forwarding, QoS, and real-time statistical data for each flow. Flow-State management achieves granular control over each individual flow which provides network operators the accurate data they need for creating and delivering network services with per-flow guaranteed QoS.

IFS assigns and maintains QoS data for each flow, including flow priority, class, rate guarantees, connection admission control, and other behavioral metrics. Before a flow is set up, IFS determines dynamically how much network resources are needed to meet the specific profile of the subscriber.

IFS technology results in a Fair Use Technology Framework that provides a flexible framework for enforcing traffic management policies that are fair to all users of broadband services. In addition, IFS radically improves network performance and reduces network delay, increasing network response up to three (3) times average performance rates currently experienced by users. While enabling up to 90% network capacity utilization, IFS also ensures that no IP-based services or users are blocked from accessing legitimate network content.

THE ANAGRAN DIFFERENCE

Anagran's Fair Use Technical Framework facilitates an Open Internet access market and safeguards consumer interests, while at the same time providing flexibility for BSPs to differentiate their business models, services and products, and perform the required bandwidth management to maintain 100% network and bandwidth availability to all users.

Anagran's Fair Use Technical Framework and our underlying IP Flow-State technology:

- Empowers BSPs with the technology required to deliver innovative, differentiated, revenue generating tiered services in a fair, equitable and transparent manner;
- Eliminates any need for BSPs to engage in blocking or discriminatory practices that restrict consumer choice;
- Enables BSPs to transparently deploy network and bandwidth management techniques that maintain Internet access quality of service and deliver an enhanced user quality of experience.