

## Fairshare Traffic Management for 3G Networks

Sandvine's Fairshare Traffic Management solves the congestion problem in 3G networks, extending infrastructure lifetime and reducing costs for operators, improving subscriber quality of experience and complying with regulatory requirements

## QualityGuard Eliminates Mobile Network Congestion

With maximum cell capacity changing by the hour and subscribers moving freely between access points, a congestion management approach that doesn't account for the reality of both subscriber mobility and variable cell capacity is fundamentally flawed. Fairshare Traffic Management presents a superior alternative to the blind addition of unmanaged capacity in mobile networks, generating massive cost-savings while meeting regulatory requirements for network neutrality and technical precision. Three capabilities make this possible:

- Real-time subscriber mobility awareness in the Radio Access Network (RAN)
- Automatic calibration of congestion detection thresholds at every edge location in RAN
- Real-time, latency-based subscriber QoE measurement for direct cell congestion detection and a precise response

## Protect QoE while achieving massive cost-savings

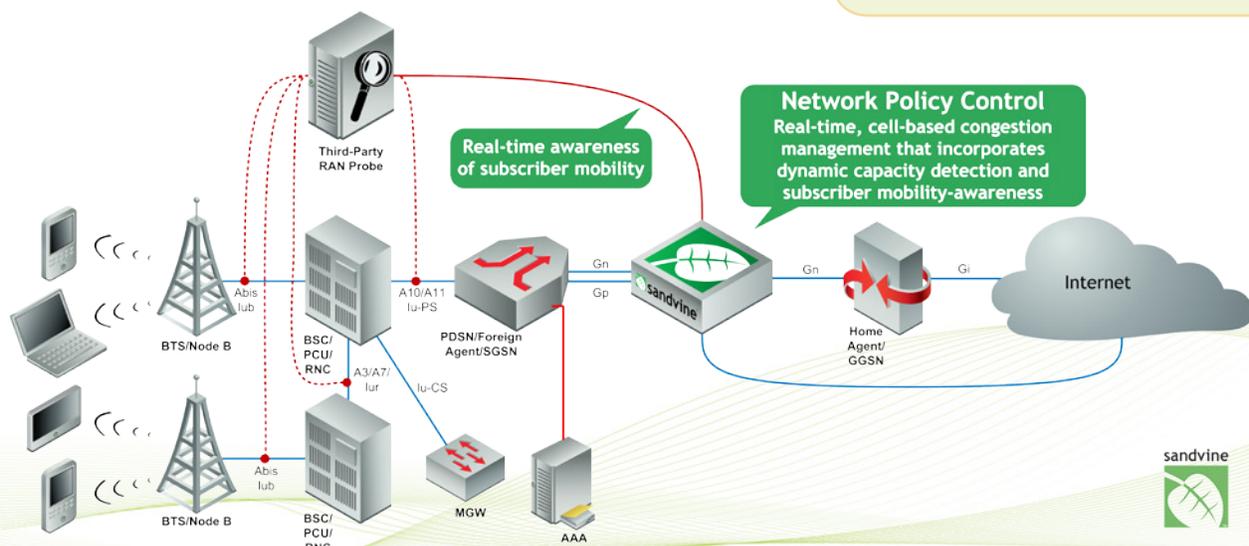
Operators can prioritize traffic with flexible enforcement actions to exactly realize their business and technical goals. Using fair criteria applied proportionally wherever and whenever congestion occurs, QualityGuard works hard to protect subscriber QoE by creating virtual capacity. Fairshare pays for itself in just a few months and generates incredible cost-savings within the first year. Finally, 3G mobile operators can extend the life of their access network resources while ensuring:

- Cell congestion is continuously detected and managed based on real-time subscriber QoE
- The vast majority of subscribers have access to the majority of available bandwidth during congestion events
- Only the true contributors to congestion are affected by a regulatory-compliant policy

### Key Benefits

Experience all of these benefits while complying with regulatory requirements:

- Reduced and more predictable capital expenses from extended resource lifetime and optimized resource investment
- Improved insight with business intelligence tools that let operator monitor policy effectiveness and plan capacity expansions
- Lowered operating costs, resulting from increased subscriber QoE



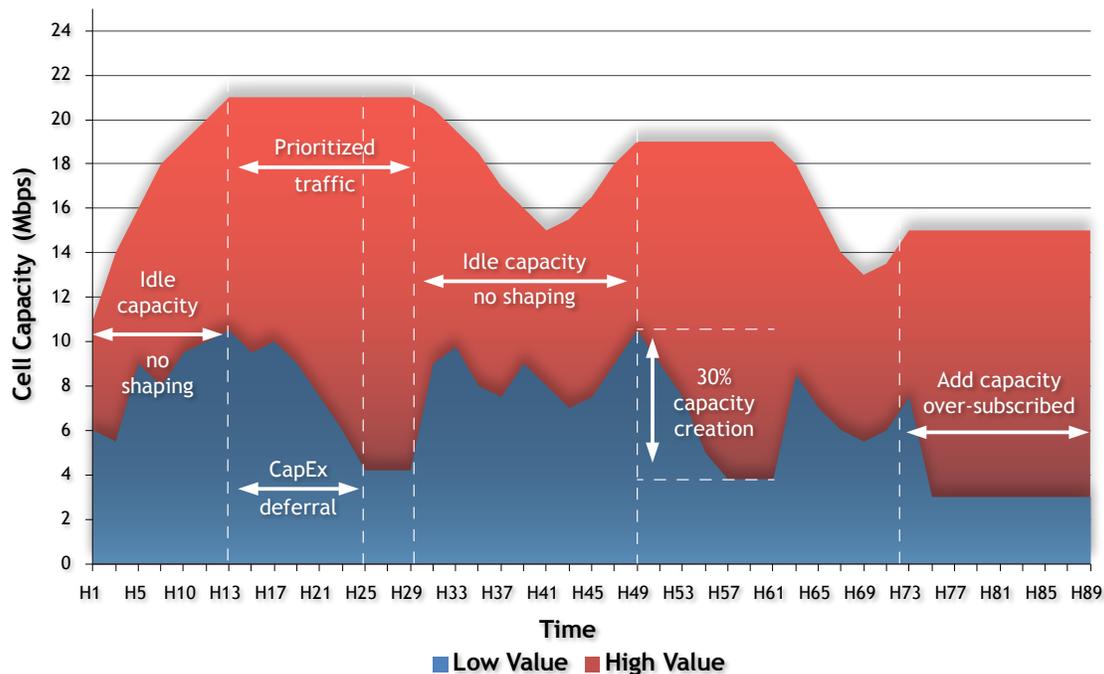
## Automatic Calibration and Subscriber Mobility Awareness

The latency tolerance for the onset of congestion varies depending on the resource type, manufacturer and especially location - a mobile cell that covers a highway has a different tipping point for congestion than a cell located in the downtown core. QualityGuard automatically learns and configures the appropriate latency benchmark for every individual mobile cell. With thousands of locations automatically benchmarked, configuration effort is eliminated and congestion detection accuracy and consistency is achieved across a heterogeneous access network.

Fairshare Traffic Management maintains real-time awareness of subscriber mobility within the RAN. Without mobility awareness and latency-based congestion detection, operators and subscribers are forced to settle for static policies that only guess when a mobile cell is congested, and which manage the traffic of subscribers that are not contributing to congestion. With Sandvine, operators can protect subscriber QoE while maximizing network efficiency by:

- Applying policies to the small minority of recent heavy users that consume the majority of bandwidth. This can be done for all traffic and/or by application.
- Combining per-user and aggregate traffic management for better peak period control. For example, guarantee quality of service for VoIP traffic at all times and constrain per-user bandwidth for P2P and other non-time-sensitive traffic when congestion is detected.
- Introducing new application-based service tiers, offering users different priority levels for various applications.

Superior measurement and reporting capabilities indicate when it's finally time to add equipment to the network because a cell is constantly at maximum capacity. The following shows the solution in action:



### Sandvine Mobile Congestion Management Advantages

- Deployed within 3G and 3G transitional networks, using standard 3GPP release 12 interfaces
- Open Application Programmer's Interface integrates with third-party RAN probes for location awareness
- Subscriber mobility awareness pinpoints contributors of congestion to congested cells
- QualityGuard delivers fully automated and precisely targeted congestion management
- Solution delivers complete application, topology, congestion, and subscriber behavior awareness
- Enjoy incredible cost-savings and watch subscribers enjoy a higher quality of experience