



# Call Filtering

## Key Operator Benefits

- Reduces churn and increases subscribers' satisfaction by eliminating unwanted calls and improving communications
- Increases revenue by enabling operators to provide fee-based and differentiated service offerings to subscribers
- Protects the network from spam voice and SMS traffic and makes it more secure
- Increases network protection by matching all unconventional number types to blacklists through number normalization
- Enables creation and offering of new services such as child phone, company phone, etc.
- Easy-to-use platform interface for provisioning and configuring filtering rules
- Feature rich, cost and resource effective solution that improves network usage efficiency
- Backed-up with Defne's proven professional and managed services

## Market Dynamics

***Mobile is now the number one communications platform increasingly relied upon by subscribers in workplaces and at home. With ever increasing subscriber base and usage, malicious, unsolicited, spam calls and messages are also on the rise affecting the quality and security of personal and business communications. With growth, mobile operators expose both their network and subscribers to a higher spamming risk. Spammers and fraudsters keep on finding new opportunities to place calls and deliver messages to mobile subscribers without much extensive control.***

***Subscribers are often annoyed and face reduced productivity due to spam calls and messages from telemarketers or other uninvited callers. This leads to unhappy customers and reduced loyalty that negatively impact customers' communications experience, operator revenues and thus overall profitability.***

***With high competition in the market from both other GSM operators and OTT vendors, mobile operators need to offer loyalty services to retain their subscribers. One such service is the call blocking and screening solution that allows subscribers to manage their own communications through lists of "barred and safe" callers/senders to prevent spam from reaching their mobile handset.***

## Product Overview

Defne's **Call Filtering** (Blacklist/Whitelist) solution provides the control mechanism for both incoming/outgoing calls and SMS messages for subscribers. It enables subscribers to bar or allow voice calls and/or SMSs from numbers specified in their own barring (black) or allow (white) lists. The solution can be offered as a VIP service to high-end segment.

The Call Filtering solution is a subscription based service periodically renewed based on subscriber confirmation. In addition to the basic call/SMS screening service, with the solution operators can also create and offer new filtering services to their subscribers for child phone, company phone, or cost control. Defne's Call Filtering solution is an enhanced service with charging, provisioning and network management integrations. It offers an interface towards operator's charging gateway for all charging operations.

Calling/SMS restrictions can be applied based on user specified optional date information such as each day between specified hours, each week between specified weekdays, between specified hours, e.g. between working hours.



## Key Subscriber Benefits

- Protects from unwanted spam calls and messages
- Improves communications experience
- Offers convenience and added call/message control
- Increases productivity
- Offers control over child, work phone outgoing and incoming calls

Subscribers may select either blacklist or whitelist mode for service activation. They can easily create their own lists (black for barring or white for allowing) through the self provisioning capability using mobile application, Web, USSD, SMS or IVR channels.

If blacklist mode is activated, all call/SMS traffic coming from the numbers in the blacklist will be blocked. If required, all call/SMS traffic towards numbers in the blacklist may also be blocked. On the other hand, if whitelist mode is activated, only call/SMS traffic originated from numbers in the whitelist will be allowed; all other traffic will be blocked. Similarly, only call/SMS traffic towards numbers in the whitelist may be allowed. Calls can be barred or allowed based on exact numbers or based on matching prefixes, and all other traffic would be blocked, if required.

## Key Features

- Incoming/outgoing call/SMS screening based on number, prefix and time:
  - Calling party numbers and number ranges (specified by prefixes)
  - Redirecting party numbers and number ranges (specified by prefixes)
  - Calls originated from hidden or unknown numbers
  - Support for flexible rules valid for specific days or specific hours
  - Number grouping
- Call/SMS barring based on operator maintained central blacklist selection
- Subscriber selected Call Barring prompts including:
  - Act as Busy/Not Reachable
  - Voicemail redirection, Call forwarding
  - Subscriber-specified announcements
  - Silent call release
- SMS notifications of barred calls
- Easy provisioning for subscribers via Mobile Application (iOS, Android), Web, USSD, SMS, IVR channels
- Real-time subscription and charging provisioning
- Roaming check and support
- SNMP alarms for fault management
- Configuration and reporting GUIs for O&M functionality
- Comprehensive and customizable service usage and call/SMS detail reports - based on time and number of subscriber/user, etc.
- Fully redundant, highly-available solution on industry standard systems

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