



SMS Firewall

Network protection from illegal traffic





Trusted By



About us

DecisionTelecom (IT-Decision Telecom LLC) an international provider of A2P messaging and Voice communication, holds network operator license, GSMA member, and interconnected with more than 800 mobile networks globally. DecisionTelecom operates a carrier-grade messaging platform and network infrastructure with highest quality industry standards.

With more than 10 years of industry experience we serve mobile network operators, A2P messaging providers, aggregators, and enterprises globally in order to create secure A2P SMS ecosystem and protect subscribers from various of frauds by delivering innovative SMS Firewall solution within a synergy of managed services.



SMS Firewall

SMS messaging is still one of the most common delivery channels in the world.

The problem of SMS spam and fraude remains relevant for both subscribers and mobile operators.

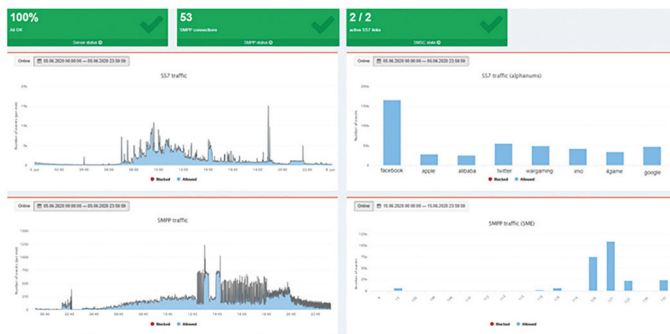
Due to the large number of illegal messages, the load on the network is growing. Revenues from legal M-commerce advertising campaigns are being disrupted. The loyalty of subscribers is reduced.

Functionality

- ✓ Detection and analyze illegal SMS traffic of various types
SMS Faking, SMS Spoofing, SMS Smishing, Fraud
- ✓ Subscriber data protection
(IMSI, MSC, VLR Number, MSC Number, HLR Number)
- ✓ Monitoring SMPP/SS7 interconnect traffic
- ✓ SMS traffic analyze by AI technologies
- ✓ API for black/white lists and blocking rules creation
- ✓ Configuration of settings via GUI
(routes, links)
- ✓ Filter rules groups and structures, the ability to use rules combinations
- ✓ AND, OR, NOT statements in rules
- ✓ Analysis of concatenated messages
- ✓ Monitoring MO messages
- ✓ Analyze SS7 traffic
(SRI, reports, etc.)

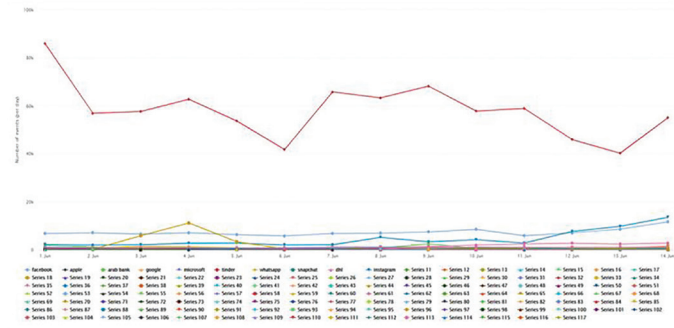
Reporting tools

Dashboard



- Monitor SS7 traffic
- Monitor AlphaNames from SS7
- Monitor SMPP traffic
- Monitor SMPP traffic by SME

Generate Report



- Generate diagrams for SS7/SMPP
- Download SS7/SMPP statistics (csv/excel)
- Generate online table with filters SS7/SMPP
- Using filters for different parameters (configurable reports)

Display messages

Module	Time	Result	Num A	Num B	Text
SMPP-FW	01.06.2020 12:02:09	0x00 (No Error)	05.00 FACEBOOK	01.01.	11064 TXT: is your Facebook password reset code
SMPP-FW	01.06.2020 12:02:24	0x00 (No Error)	05.00 FACEBOOK	01.01.	50130 TXT: is your Facebook for Android confirmation code
SMPP-FW	01.06.2020 12:02:37	0x00 (No Error)	05.00 FACEBOOK	01.01.	30846 TXT->< is your Facebook code
SMPP-FW	01.06.2020 12:03:24	0x00 (No Error)	05.00 FACEBOOK	01.01.	59149 TXT->< is your Facebook code
SMPP-FW	01.06.2020 12:06:05	0x00 (No Error)	05.00 FACEBOOK	01.01.	23429 TXT: is your Facebook password reset code
SMPP-FW	01.06.2020 12:06:13	0x00 (No Error)	05.00 FACEBOOK	01.01.	50535 TXT:Use for two-factor authentication on Facebook.
SMPP-FW	01.06.2020 12:07:15	0x00 (No Error)	05.00 FACEBOOK	01.01.	44583 TXT->< is your Facebook code
SMPP-FW	01.06.2020 12:09:24	0x00 (No Error)	05.00 FACEBOOK	01.01.	46083 TXT->< is your Facebook code
SMPP-FW	01.06.2020 12:09:39	0x00 (No Error)	05.00 FACEBOOK	01.01.	51559 TXT->< is your Facebook code
SMPP-FW	01.06.2020	0x00 (No Error)	05.00 FACEBOOK	01.01.	34149 TXT is your Facebook Life confirmation code

- Display and export specific messages
- Find messages with specific text or number
- Find messages from specific sources
- Use configurable filters for troubleshooting

Report generation

Dashboard
Administration
SS7-firewall
SMPP-firewall
Reports
SS7 statistics
SMPP statistics
Messages

SS7 statistics

Date range
01.06.2020 00:00:00 — 14.06.2020 12:59:59

Output format: Graph
Aggregation step: hour

☐ Overall quantity
☒ Category
☐ Whitelist
☐ MNO 1
☐ Fraud
☐ Fraud
☐ SIM-BOX

Build report

SS7 statistics

New query

Date	facebook	apple	wargaming	arab bank	twitter	google	microsoft	tinder	whatsapp	snapchat	dhl	instagram	SIM-BOX
2020.06.01	13518	66	0	3676	40	726	2236	224	1442	1324	542	4464	1458
2020.06.02	14168	68	0	2496	30	898	1944	216	1432	766	230	3938	1622
2020.06.03	13120	88	10	854	2	948	1962	222	2946	466	602	4222	1606
2020.06.04	14154	42	0	818	0	910	2040	294	2538	234	166	5466	1582
2020.06.05	12638	60	0	408	0	788	1566	416	1704	200	100	5580	1610
2020.06.06	11608	20	0	518	0	286	1864	232	788	204	158	4040	1336
2020.06.07	13556	74	0	840	0	1050	2368	222	1076	194	164	4204	1654
2020.06.08	13860	882	0	1508	0	1622	2312	326	1508	286	378	10362	1674
2020.06.09	14842	46	6	5074	8	1496	2434	350	1570	340	170	6708	1718
2020.06.10	16986	120	0	1228	4	878	1962	120	1348	220	228	8418	2326
2020.06.11	11758	180	0	1074	22	944	2044	38	1264	228	212	5596	1954
2020.06.12	14098	16	14	392	4	1030	1622	156	1332	322	82	15290	1978
2020.06.13	17218	20	0	468	4	630	1562	340	1478	194	138	19528	1992
2020.06.14	23216	74	0	864	4	1536	1782	428	2078	152	100	27882	2370

Output format	Graph / CSV / Excel / Table
Date range	Any time range
Aggregation step	Min / hour / day / month
Parameter (customized)	Service Category / Overall / Fraud / Whitelist

Display message

SMS messages

Num A

Num B

Date range
15.06.2020 09:05:00 — 15.06.2020 23:59:59

Text

Source
SMPP SME SS7 GT
Not set

SMPP result
Not set

Output format
Table

Search

Module	Time	Result	Num A	Num B	Text
SMPP-FW	01.06.2020 12:02:09	0x00 (No Error)	05 00 FACEBOOK	01 01	11064 TXT is your Facebook password reset code
SMPP-FW	01.06.2020 12:02:24	0x00 (No Error)	05 00 FACEBOOK	01 01	50130 TXT is your Facebook for Android confirmation code
SMPP-FW	01.06.2020 12:02:37	0x00 (No Error)	05 00 FACEBOOK	01 01	30846 TXT is your Facebook code
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SMPP-FW	01.06.2020 12:06:13	0x00 (No Error)	05 00 FACEBOOK	01 01	50535 TXT Use for two-factor authentication on Facebook.
SMPP-FW	01.06.2020 12:07:18	0x00 (No Error)	05 00 FACEBOOK	01 01	44583 TXT is your Facebook code
SMPP-FW	01.06.2020 12:09:24	0x00 (No Error)	05 00 FACEBOOK	01 01	46983 TXT is your Facebook code
SMPP-FW	01.06.2020 12:09:39	0x00 (No Error)	05 00 FACEBOOK	01 01	51559 TXT is your Facebook code
SMPP-FW	01.06.2020 12:10:29	0x00 (No Error)	05 00 FACEBOOK	01 01	34149 TXT is your Facebook Life confirmation code
SMPP-FW	01.06.2020 12:10:30	0x00 (No Error)	05 00 FACEBOOK	01 01	51559 TXT is your Facebook code I
SMPP-FW	01.06.2020 12:10:30	0x00 (No Error)	05 00 FACEBOOK	01 01	34478 TXT is your Facebook code
SMPP-FW	01.06.2020 12:10:32	0x00 (No Error)	05 00 FACEBOOK	01 01	34149 TXT is your Facebook Life confirmation code
SMPP-FW	01.06.2020 12:12:30	0x00 (No Error)	05 00 FACEBOOK	01 01	34478 TXT is your Facebook code
SMPP-FW	01.06.2020	0x00 (No Error)	05 00 FACEBOOK	01 01	27942 TXT is your Facebook code

Configure filters by:

- Origination/Destination
- Date range: Any time range
- Message text
- Message source (SMPP - SME/SS7 - GT)
- Message result: Success/Error Code
- Output format: CSV/Table/Excel

*****SPAM SMS*****

You are welcome! 40% on all jewelry...

MESSAGES

now

*****SPAM SMS*****

It's a time of shopping...

MESSAGES

*****SPAM SMS*****

LIGHT Sale 70%! Sto

MESSAGES

*****SPAM SMS*****

100 bonuses for the first purch

MESSAGES

now

POST

Receive shipment LC7845111CN on...

4 more messages from POST

MESSAGES

now

BANK

Please don't tell anyone code 78459...

4 more messages from SPAM SMS

MESS

*****SPAM S*****

Biggest fall disc

MESSAGES

*****SPAM SMS*****

Today only, up to 80%

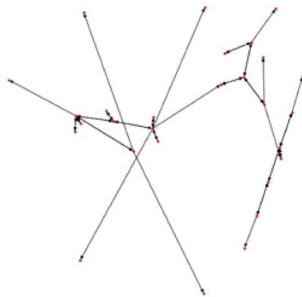
Filtering options

- GT blocking/Sender number blocking
- Filtering by keywords
- Duplicate messages filtering
- Extended filtering options by Lua scripts

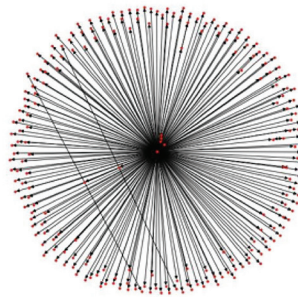
Filtering rules can be created by AI technologies

AI module (coming soon)

Visual representation of subscriber behavioral in the form of graphs:



Example 1. Live communication between 28 people. All topics are different, a small degree of similarity = 0.0756.









Example 2. Spam to 209 numbers. Message similarity within the selected group = 0.99

- ✓ Grey routes detection
- ✓ Spam detection not covered by filter rules.

AI development involves the full range of the latest technologies and scientific achievements. The AI module brings traffic analysis to a qualitatively new level.

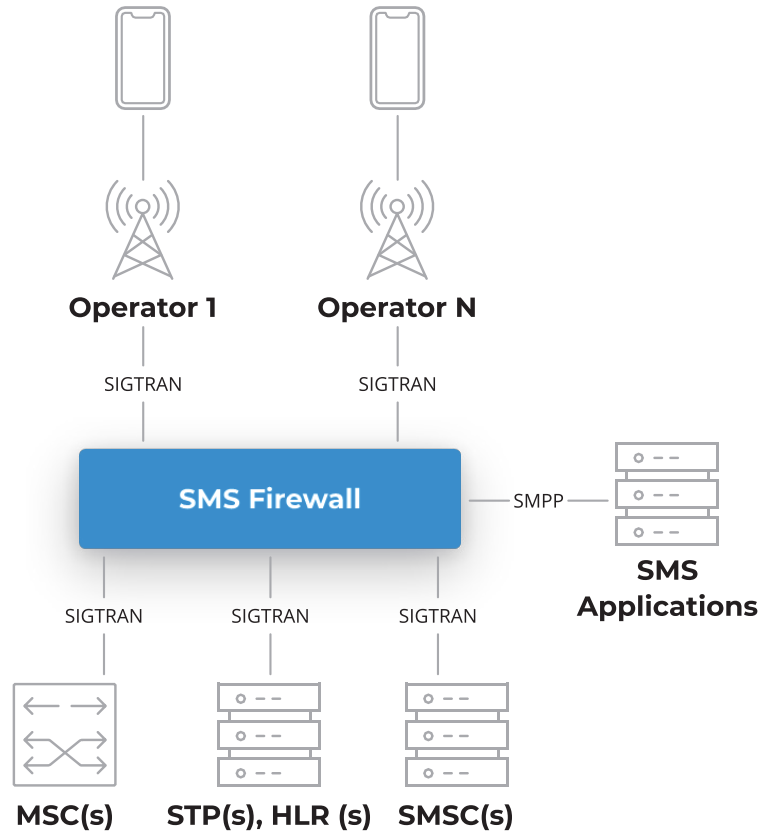
Traffic Analysis Results

During the analyze process, the system decides whether to deliver or block the message. As a result, the following actions can be performed:

Allow message delivery	
Reject message with sending delivery report	 
Reject message without sending delivery report	
MAP/SMPP error transfer to sender MAP/SMPP	
Tagging traffic	

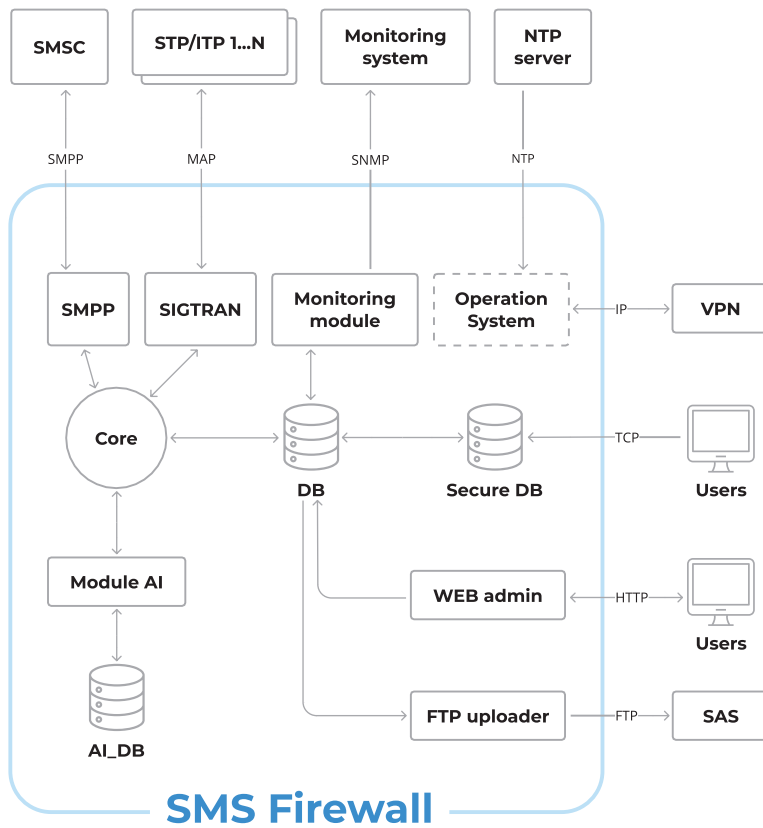
Integration scheme

- ✓ SMPP 3.4/5.0
- ✓ SIGTRAN m2pa/m3ua
- ✓ Average duration of installation – 5 days^{*}
^{*}Home Routing functionality needed



Architecture

SMS FRW with AI module



Different options



Platform for MT SMS
processing only –
SMPP+SS7



Platform with own SMSC
for MO traffic processing



Platform with SS7 traffic
processing. Optional STP
can be supplied



Platform with AI Module
for deep analyze.

Conformity to specifications

MAP requests supported with specifications:

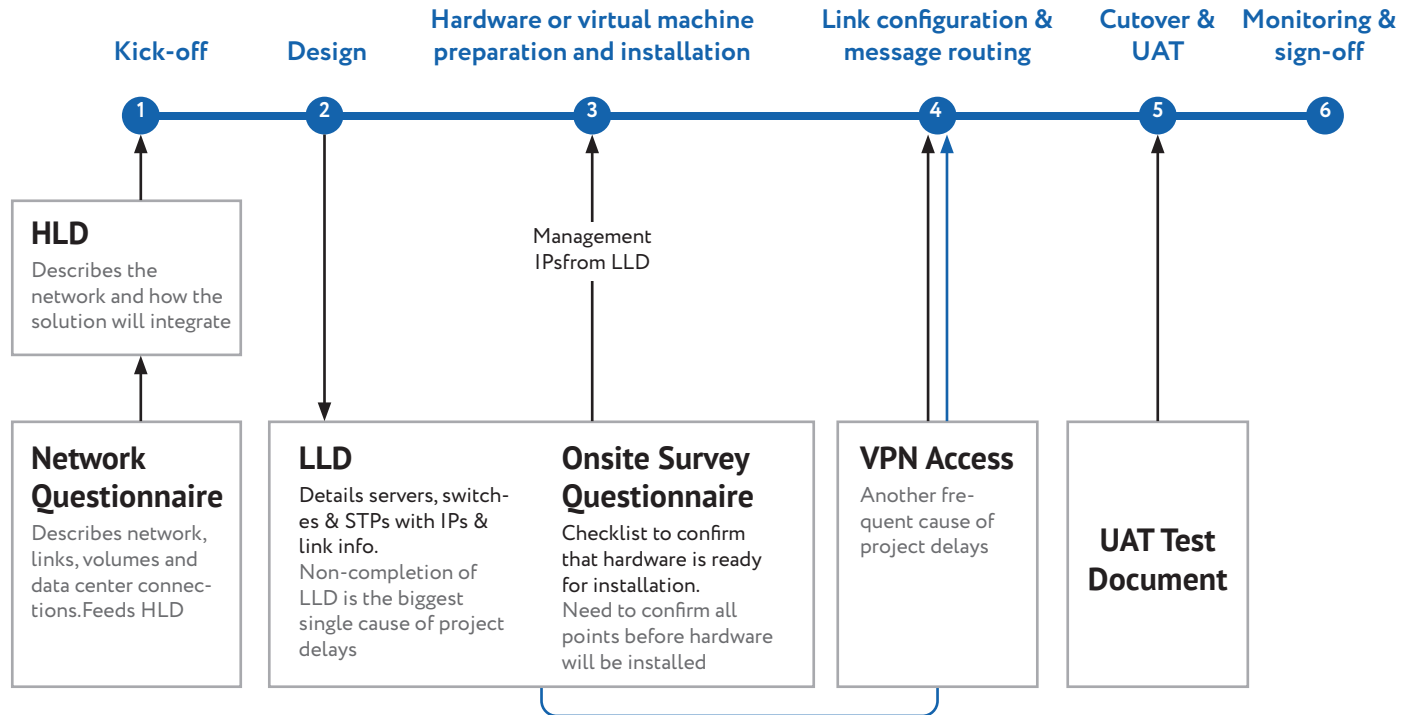
- IETF RFC 2960, 3286, 3309 (SIGTRAN SCTP).
- IETF RFC 4165 (M2PA).
- ITU-T Q.704-Q.709 (MTP3).
- IETF RFC 3332 (M3UA).
- ITU-T Q.711-Q.719, ANSI T1.112-1996 (SCCP).
- ITU-T Q.771-775 (TCAP).
- 3GPP TS 29.002 (MAP).

Flexible analysis logic for MAP, CAP requests.

The solution conforms GSMA safety specifications:

- GSM Association IR.70 (Official Document IR.70 – SMS SS7 Fraud).
- GSM Association IR.82 (Official Document IR.82 – Security SS7 implementation on SS7 network guidelines).

Implementation process



Experience with other systems and software

Systems	Vendors
MSC/MSS, HLR/HSS, STP/ITP	Huawei, Ericsson, Nokia, ZTE, Cisco, Alcatel, Nortel, Delta Solutions
Billing	Nexign, Foris, HP, CBOSS, Bercut, Comverse, Ensemble (AmDocs), NVision (Sitronics), Asia Info and others
VAS platforms	Protei, Unifun, Openmind, Eastwind, Mavenir, CBOSS, Bercut, ORGA, Lucent, Aicent, Mobico, Nokia, Siemens Networks, Sitronics, Ericsson, Telenity, Synapse, Comverse, Acision (Xura), Mediafon, Sicap

Operating Systems



CentOS



Red Hat



AlmaLinux

Virtualization

vmware



openstack.



KVM

DBMS

ORACLE



redis



PostgreSQL



Servers



HUAWEI



Switching equipment



HUAWEI



cisco

Alcatel-Lucent



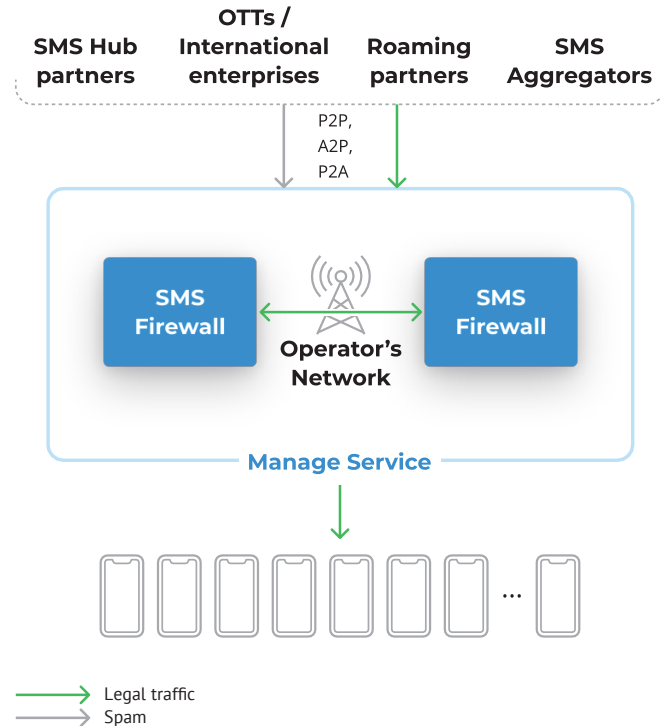
Managed Services

SMS is still one of the most common channels in the world of message delivery.

SMS remains the most important channel of communication with customers and potential customers. Unlike the P2P SMS messages, A2P messages grows every year* and requires more and more security. The presence of gray routes reduces the income of telecom operators.

* According to Mobilesquared forecasts, the turnover of the global A2P market in 2022 will amount to \$26.61 billion (in 2017 - \$11.86 billion)

SMS Firewall Management traffic Monetization



Features

The platform collects statistics and uses tools to deeply analyze and develop a successful strategy for monetizing A2P traffic.

Sandbox

System of safe testing of filtering rules on the test database for next implementation in the production environment. Before applying to the main database, all changes are necessarily moderated.

Data hashing

The system can hash personal data if these data are transferred to third parties – analysts, managers, etc.

Message tagging

Tags create separate policies for specific types of traffic, providing capabilities for more detailed monitoring.

Performance

Standart version – **500 SMS per sec** (w/o storage)

Modular platform architecture provides easy scalability to **20 000+ SMS per sec**

Standart version:
2 virtual machines

Processor cores	6
RAM, GB	16
Storage, GB	150



Our A2P SMS experience

10C+

Years of experience

500C+

Partners globally

50⁺

Million of A2P SMS
daily

800C+

Mobile networks
worldwide

Different options



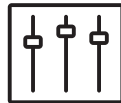
Complete customization
for customer cases



Professional team



Monetization/Manage
Service



High performance



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