

INFOWATCH

InfoWatch Traffic Monitor

Configuration Files Guide

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TABLE OF CONTENTS

1 Traffic Monitor configuration and unit files description 5

1.1 adlibitum.conf and iw_adlibitum.service 6

1.2 agent.conf and iw_agent.service 9

1.3 analysis_client.conf 12

1.4 analysis.conf and iw_analysis.service 13

1.5 attributor.conf and iw_attributor.service 18

1.6 blackboard.conf and iw_blackboard.service 22

1.7 bookworm.conf and iw_bookworm.service 24

1.8 capstack.conf and iw_capstack.service 31

1.9 cas_config_compiler.conf 39

1.10 cas.conf and iw_cas.service 42

1.11 configerator.conf and iw_configerator.service 53

1.12 deliver.conf and iw_deliver.service 56

1.13 extractors.conf 59

1.14 icap.conf and iw_icap.service 63

1.15 image2text_fre.conf 70

1.16 image2text_ts.conf 73

1.17 image_autoling.conf and iw_image_autoling.service 75

1.18 indexer.conf and iw_indexer.service 82

1.19 is.conf and iw_is.service 87

1.20 kicker.conf and kicker.service 97

1.21 license.conf 101

1.22 licensed.conf and iw_licensed.service 101

1.23 lua.conf 104

1.24 luaengined.conf and iw_luaengined.service 105

1.25 messed.conf and iw_messed.service 114

1.26 oracle.conf 120

1.27 pas.conf and iw_pas.service 120

1.28 postgresql.conf 123

1.29 proxy.conf and iw_proxy_http.service, iw_proxy_icq.service, iw_proxy_smtp.service ... 124

1.30 rest2push.conf and iw_rest2push.service 140
1.31 qmover_client.conf and iw_qmover_client.service 144
1.32 qmover_server.conf and iw_qmover_server.service 147
1.33 rammer.conf 151
1.34 sample_compiler.conf and iw_sample_compiler.service 153
1.35 smtpd.conf and iw_smtpd.service 159
1.36 sniffer.conf and iw_sniffer.service 162
1.37 space_manager.conf and iw_space_manager.service 181
1.38 system_check.conf and iw_system_check.service 184
1.39 tech_tools.conf and iw_tech_tools.service 187
1.40 text_autoling.conf and iw_text_autoling.service 190
1.41 updater.conf and iw_updater.service 195
1.42 warpd.conf and iw_warpd.service 199
1.43 web.conf 202
1.44 x2db.conf and iw_x2db.service 209
1.45 x2x.conf and iw_x2x.service 214
1.46 xapi.conf and iw_xapi_xapi.service, iw_xapi_puppy.service 218
1.47 General section Bookworm 227
1.48 General section Discovery 229
1.49 General section Logging 230
1.50 General section Statistics 236
1.51 General section Statistic 237
1.52 General section ThriftServers 237
1.53 General section ThriftClients 239

2 Other configuration files of Traffic Monitor 240

2.1 FineReader 12 OR extractor features of control 240
2.1.1 [BarcodeParams] 244
2.1.2 [DocumentProcessingParams] 245
2.1.3 [DocumentStructureDetectionParams] 245
2.1.4 [FontFormattingDetectionParams] 245
2.1.5 [ImageProcessingParams] 246
2.1.6 [ObjectsExtractionParams] 247
2.1.7 [OrientationDetectionParams] 248
2.1.8 [PageAnalysisParams] 249
2.1.9 [PagePreprocessingParams] 251

2.1.10 [PageProcessingParams] ... 252
2.1.11 [PrepareImageMode] ... 252
2.1.12 [RecognizerParams] ... 255
2.1.13 [SynthesisParamsForDocument] ... 257
2.1.14 [SynthesisParamsForPage] ... 258
2.1.15 [TableAnalysisParams] ... 259
2.1.16 Constants ... 259
ThreeStatePropertyValueEnum ... 259
CorrectSkewModeEnum ... 260
OrientationDetectionModeEnum ... 260
PaperSizeDetectionModeEnum ... 261
BarcodeTypeEnum ... 261
BarcodeOrientationEnum ... 262
TextTypeEnum ... 263
CaseRecognitionModeEnum ... 263
ParagraphExtractionModeEnum ... 264
MonospaceDetectionModeEnum ... 264
RotationTypeEnum ... 264
PhotoProcessingModeEnum ... 264
RecognitionModeEnum ... 265
2.1.17 FRProfile.ini example ... 265

1 Traffic Monitor configuration and unit files description

- adlibitum.conf and iw_adlibitum.service
- agent.conf and iw_agent.service
- analysis_client.conf
- analysis.conf and iw_analysis.service
- attributor.conf and iw_attributor.service
- blackboard.conf and iw_blackboard.service
- bookworm.conf and iw_bookworm.service
- capstack.conf and iw_capstack.service
- cas_config_compiler.conf
- cas.conf and iw_cas.service
- configerator.conf and iw_configerator.service
- deliver.conf and iw_deliver.service
- extractors.conf
- icap.conf and iw_icap.service
- image2text_fre.conf
- image2text_ts.conf
- image_autoling.conf and iw_image_autoling.service
- indexer.conf and iw_indexer.service
- is.conf and iw_is.service
- kicker.conf and kicker.service
- license.conf
- licensed.conf and iw_licensed.service
- lua.conf
- luaengined.conf and iw_luaengined.service
- messed.conf and iw_messed.service
- oracle.conf
- pas.conf and iw_pas.service
- postgresql.conf
- proxy.conf and iw_proxy_http.service, iw_proxy_icq.service, iw_proxy_smtp.service
- rest2push.conf and iw_rest2push.service
- qmover_client.conf and iw_qmover_client.service
- qmover_server.conf and iw_qmover_server.service
- rammer.conf
- sample_compiler.conf and iw_sample_compiler.service
- smtpd.conf and iw_smtpd.service
- sniffer.conf and iw_sniffer.service
- space_manager.conf and iw_space_manager.service
- system_check.conf and iw_system_check.service
- tech_tools.conf and iw_tech_tools.service
- text_autoling.conf and iw_text_autoling.service
- updater.conf and iw_updater.service
- warpd.conf and iw_warpd.service
- web.conf
- x2db.conf and iw_x2db.service
- x2x.conf and iw_x2x.service
- xapi.conf and iw_xapi_xapi.service, iw_xapi_puppy.service
- General section Bookworm
- General section Discovery

- General section Logging
- General section Statistics
- General section Statistic
- General section ThriftServers
- General section ThriftClients

1.1 adlibitum.conf and iw_adlibitum.service

The **adlibitum.conf** configuration file

Content	Description
`{`	
`"Logging": {...},`	See *General section Logging*
`"ThriftServers": {...},`	See *General section ThriftServers*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`
`"Discovery": {...}`	See *General section Discovery*
`"Adlibitum": {`	

`"DomainParams": {`	A section that describes conversion of domain parameters
	If your infrastructure has domains other than Windows AD, then for each of these domains you need to add its own custom setting. The structure of these settings is similar to the one described below. The " `NetBiosNameDefault` " field should remain empty and the " `DnsRootDefault` " should contain the domain name.
	Example:
	`"DnsRootDefault": "ru.office.com",`
	`"NetbiosNameDefault": "ru",`
	`"DomainName": "dc=ru,dc=office,dc=com"`

Content	Description
"DnsRootDefault": "",	Domain address through which the System gets auth contacts of persons. If the domain is specified in the custom setting, the priority of this custom setting will be higher than the default one
"NetbiosNameDefault": ""	Domain name used for identification and the auth type contact generation
"DomainName": "default"	Search root in LDAP-catalogue. In case it is specified in custom settings, this custom priority is higher that default.
}	
},	
"ConfigDir": "etc/adlibitum/"	Directory to store temporary files. The path is set in accordance with NookDir. Empty during the installation
"SyncTempFilesDir": "tmp/"	Directory to store temporary files. The path is set in accordance with NookDir. In case there is no such directory, to be automatically created
},	
"UnsafeHandlers":false	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers
"DebugBreak": false,	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes
}	

The **iw_adlibitum.service** unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Adlibitum`	Daemon name
`After=network-online.service iwtm-consul.service  postgresql-9.6.service oracle.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_adlibitum`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_adlibitum -p /opt/iw/tm5/etc --backend $DB_BACKEND`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` field
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped

Code	Description
	with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`EnvironmentFile=-/etc/default/iwtm`	The path to the environment file
`[Install]`	Defines the behavior of a daemon when it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.2 agent.conf and iw_agent.service

The **agent.conf** configuration file:

Content	Description
`{`	
`"Autoscan": {`	Automatic system information gathering settings section
`"Enabled": true,`	Enable auto-scan
`"StartTime": 0`	Scanning start time offset in minutes (once a day, starting from current start time)
`},`	
`"AutoscanTime": 0,`	Older versions support. The StartTime parameter is used in the up-to-date versions. Entirely equivalent.
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"Discovery": {...},`	See *General section Discovery*
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/ disabling this parameter is not recommended without consultation with developers.
`"Logging": {...},`	See *General section Logging*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`
`"ThriftServers": {...}`	See *General section ThriftServers*
`}`	

The **iw_agent.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Agent`	The daemon name
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_agent`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_agent -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation

Code	Description
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or forcibly terminated
`User=root`	The name of the user under whose account the daemon is started
`Group=root`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`AmbientCapabilities=CAP_DAC_READ_SEA RCH`	A privilege that removes the check for permission to read files. The whole file system becomes available for reading.
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.3 analysis_client.conf

Content	Description
`{`	
`"PASPort": 9989,`	**iw_pas** port
`"PASHost": "127.0.0.1",`	**iw_pas** daemon host address

Content	Description
`"CASPort": 9987,`	**iw_cas** port
`"CASHost": "127.0.0.1",`	**iw_cas** daemon host address
`"ChunkSize" : 8388608,`	Clipboard size (bytes) for data exchange with CAS service (optional).
`}`	

1.4 analysis.conf and iw_analysis.service

The **analysis.conf** configuration file:

Content	Description
`{`	
`"Analysis": {`	
`"HTTP": {`	
`"CharsetDetection": 0,`	Encoding detection method. The default value is 0. The encoding is determined by the usual method. After extractinп the context, some POST-requests might be displayed incorrectly. To fix this, the value can be set to `1`.
`"DecodeHttpContent": true,`	Enables extracting the request contents if the value of the Content-Encoding header is `gzip`, `deflate`, or `compress`. By default, the value is `true`.
`"ExtractHttpEntity": false,`	Enables text extraction from the contents of an encrypted request using external decompressors. This procedure is used, if the internal decoding procedure with the use of zlib does not work. By default, the value is `false`.
`"MaxFileMap": 131072,`	Maximum buffer size to read an HTTP context file (in bytes).

Content	Description
`"MaxMemoryBlock": 4096,`	Maximum amount of POST request data (in KB), which can be stored in RAM. Blocks of a larger size will be unloaded to temporary files. The default value is `4096` KB.
`"MaxReadBuf": 131072,`	Buffer size limit. The default value is 131072.
`"MinHeader": 10,`	Minimum text size (in bytes) for one block of a URL-encoded variable, which will be sent to the content analysis server. The default value is `10`.
`"MinText": 0,`	Minimum text size (in bytes), for which the content analysis will be performed. The default value is `0`. Setting this parameter allows you to reduce the load on the content analysis server. This can be done by excluding from content analysis the text that is too small to contain valuable messages.
`"OnlyPost": true,`	Intercepting only POST-requests. The default value is `true`.
`"ZimbraMail": false`	Intercepting Zimbra mail. The default value is `false`.
`},`	
`"TempDir": "tmp",`	Directory for storing temporary files. The default value is `tmp`.
`"NumExtractorThreads": 0,`	• Value 0 - an old mode. The number of started extractors is equal to the number of streams and each object will be processed sequentially by one thread (for example, an archive with 100 files). • Value >0 - a new mode. In this case, if the object contains attachments (an archive), they will be processed by a maximum of `NumExtractorThreads` threads. And, irrespective of the number of working threads, only NumExtractorThreads extractors can be run simultaneously.
`"WorkerThreads": 12`	The number of processed streams. The default value is `12`

Content	Description
`},`	
`"AnalysisClient": {`	Settings for data analysis client
`"BindataMaxSizeInMb": 1024`	Maximum size of a file to be processed (MB). The default value is 1024
`"Cas": {`	Settings of **iw_cas**
`"SleepIntervalInSec": 5,`	The interval between connection attempts
`"ConnectTryCount": 200`	Number of attempts to connect **iw_cas** service
`},`	
`"ConsulKVWatchPort": 9998,`	Port which Consul is using to inform interceptor about kv (key-value) changes and the necessity to update values
`"Pas": {`	Settings of **iw_pas**
`"SleepIntervalInSec": 5,`	The interval between connection attempts
`},`	
`},`	
`"Bookworm": {...},`	see *General section Bookworm*
`"DebugBreak": false,`	Whether SIGTRAP (SIGBREAK on Windows) should be sent when handling any exception. Used for debugging purposes.
`"ExtractorCache": {`	Extractor cache options
`"ExtractorCacheDepth": 0,`	Maximum number of objects stored in a cache. The default value is 0 (cache is disabled).

Content	Description
`"ExtractorCacheClearExistingDir": true,`	Flag, indicating if the contents of the daemon's cache directory should be deleted once started, if the directory already exists and is not empty. The default value is true (to delete).
`"ExtractorCacheMaxSize": 107374182400,`	Maximum cache size reserved on the disk (in bytes). The default value is 107374182400 (100 GB).
`"ExtractorCacheFileMaxSize": 10485760,`	Maximum file size to be cached (in bytes). The default value is 10485760 (10 MB).
`"ExtractorCacheShards": 0`	Number of threads to store data in the cache. If the value is 0, all system threads are used. Otherwise, the specified number of threads are used. It is better not to specify a value greater than the number of threads in the system. The default value is 0.
`},`	
`"Logging": {...},`	see *General section Logging*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default: `/opt/iw/tm5`
`"UnsafeSignalHandlers":false,`	Support for working with unhandled signals. Disabled by default (`false`). Once the `true` value is set, you can use "unsafe" signal handlers in the code (e.g. SIGSEVG). We recommend not adding, enabling or disabling this parameter without consulting our developers.
`"Statistics": {...},`	see *General section Statistics*
`}`	

The **iw_analysis.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified

Code	Description
`Description=InfoWatch Traffic Monitor Analysis daemon`	Daemon name
`After=network-online.service iwtm-consul.service iw_bookworm.service iw_licensed.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_analysis`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_analysis -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation

Code	Description
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.5 attributor.conf and iw_attributor.service

The **iw_attributor.conf** configuration file:

Content	Description
`{`	
`"de": {`	Parameters of interaction between Traffic Monitor and Data Analysis Service

Content	Description
`"tmhost": "set_tmhost_here",`	Traffic Monitor address
`"tokenslist": "/opt/iw/tm5/etc/config/access_control/tokens.list"`	The full path to the file containing authentication tokens
`},`	
`"logger": {`	Logging parameters
`"filename": "/var/log/infowatch/attributor.log",`	The full path to the file, in which logs are recorded
`"level": "debug"`	Logging level. Possible logging levels (Severity): • *trace* - detailed logging (including messages with the levels *debug, info* and higher) • *debug* - debugging information output, usually for error diagnostics and communication with developers/tech support • *info* - information messages, could be disabled in the stable system • *warning* • *error* • *fatal* - most important messages leading to system crash and failure.
`}`	
`}`	

The **iw_attributor.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified

Code	Description
`Description=InfoWatch iw_attributor service`	Daemon name
`After=network-online.target iwtm-consul.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_attributor_pg`	Only for PostgreSQL DBMS. The full path and arguments of the command that should be executed before the main process is started.
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_attributor_ora`	Only for Oracle DBMS. The full path and arguments of the command that should be executed before the main process is started.
`ExecStart=/opt/iw/tm5/bin/iw_attributor_pg -p /opt/iw/tm5/etc`	Only for PostgreSQL DBMS. The full path and arguments of the command that should be executed before starting the daemon. The command is run under user specified in the `User` field
`ExecStart=/opt/iw/tm5/bin/iw_attributor_ora -p /opt/iw/tm5/etc`	Only for Oracle DBMS. The full path and arguments of the command that should be executed before starting the daemon. The command is run under user specified in the `User` field
`ExecStop=/bin/kill -s SIGTERM $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field

Code	Description
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=`	The maximum number of open files
`LimitFSIZE=`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=`	The maximum number of processes
`LimitCORE=`	Limit for core dump size (KB)
`LimitMEMLOCK=`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.6 blackboard.conf and iw_blackboard.service

The **blackboard.conf** configuration file:

Content	Description
`{`	
`"DebugBreak": false,`	If SIGTRAP (SIGBREAK to Windows) should be sent while any exception handling. Used for debugging purposes.
`"Discovery": {...},`	See *General section Discovery*
`"Logging": {...}`	See *General section Logging*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`
`"OpenMessagesMax": 100,`	Maximum number of simultaneously opened elements of **iw_blackboard** daemon message queue
`"UnsafeSignalHandlers":false,`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"ThriftServers": {...}`	See *General section ThriftServers*
`}`	

The **iw_blackboard.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Configuration Blackboard`	Daemon name
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one

Code	Description
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_blackboard`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_blackboard -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group

Code	Description
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.7 bookworm.conf and iw_bookworm.service

The **bookworm.conf** configuration file:

Content	Description
`{`	
`"Logging": {...}`	See *General section Logging*
`"ThriftServers": {...}`	See *General section ThriftServers*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.

Content	Description
`"UnsafeSignalHandlers":false,`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"Discovery": {...},`	See *General section Discovery*
`"MergeDetector": {`	Configuration of splice detector
`"CFBFormats": {`	Formats signatures search
`"XMLPath": "mergedetector/cfb_formats.xml",`	Path to directory
`"XSDPath": "mergedetector/cfb_formats.xsd"`	Path to XSD scheme to validate
`},`	
`"EOFFormats": {`	Comparison of file size and data from CFB (only for formats based on MS CFB)
`"XMLPath": "mergedetector/eof_formats.xml",`	Path to directory
`"XSDPath": "mergedetector/eof_formats.xsd"`	Path to XSD scheme to validate
`},`	
`"SizeFormats": {`	Comparison of file size and value recorded in the known place (for different formats with size fields). This can be also applied to formats consisting of block series with records.

Content	Description
"XMLPath": "mergedetector/size_formats.xml",	Path to directory
"XSDPath": "mergedetector/size_formats.xsd"	Path to XSD scheme to validate
},	
"Compendiums": {	Paths to compendiums list
"OCRCompendium": {	Directory containing information about enabling OCR extraction for a specified service/ object type/ protocol.
"XMLPath": "config-perm/ bookworm/ocr.xml",	Basic OCR directory. It is to be overwritten when updating the RPM packages.
"CustomNodeXMLPath": [],	Custom OCR directory list for separate nodes. The highest rules priority.
"CustomXMLPath": "config-perm/ bookworm/ocr-custom.xml",	Custom OCR options directory . The rules belonging to this section have higher priority over the corresponding rules from BaseXMLPath. This directory is not overwritten when RPM packages are updating.
"XSDPath": "compendiums/ ocr.xsd"	Path to XSD schema for OCR directory validation
},	
"ErrorCompendium": {	Localized processing errors directory
"XMLPath": "config-perm/ bookworm/errors.xml",	Path to directory
"XSDPath": "compendiums/ errors.xsd"	Path to XSD schema for validation
},	

Content	Description
"ActionCompendium": {	Directory of actions related to interrupted events. Supporting localization.
"XMLPath": "config/bookworm/actions.xml",	Path to directory
"XSDPath": "compendiums/actions.xsd"	Path to XSD schema for validation
},	
"AntigarbageCompendium": {	Directory with the samples of events, needed to avoid error when the events are wrongly deleted as garbage
"XMLPath": "config-perm/bookworm/antigarbage.xml",	Path to directory
"XSDPath": "compendiums/errors.xsd"	Path to XSD-scheme for validation.
},	
"FormatCompendium": {	Supported formats directory
"CustomXMLPath": "config-perm/bookworm/formats_custom.xml",	Path to user xml file with settings
"CustomizationXMLPath": "config-perm/bookworm/formats_customization.xml",	Path to xml file with settings customization
"CustomizationXSDPath": "compendiums/formats_customization.xsd",	Path to xsd scheme, with which the file with settings customization should comply

Content	Description
"XMLPath": "config-perm/bookworm/formats.xml",	Path to directory
"XSDPath": "compendiums/formats.xsd"	Path to XSD schema for validation
},	
"ExtractorCompendium": {	Directory for signature-based detection of mime-type, and suitable extractor determination.
"CustomXMLPath": "config-perm/bookworm/extractors_custom.xml",	Path to user xml file with settings
"CustomizationXMLPath": "config-perm/bookworm/extractors_customization.xml",	Path to xml file with settings customization
"CustomizationXSDPath": "compendiums/extractors_customization.xsd",	Path to xsd scheme, with which the file with settings customization should comply
"XMLPath": "config-perm/bookworm/extractors.xml",	
"XSDPath": "compendiums/extractors.xsd"	Path to XSD schema for validation
},	
"ProtocolCompendium": {	Localized protocols directory.
"XMLPath": "config/bookworm/protocols.xml",	Path to directory

Content	Description
"XSDPath": "compendiums/protocols.xsd"	Path to XSD schema for validation
},	
"ServiceCompendium": {	Localized services and event types directory.
"XMLPath": "config/bookworm/services.xml",	Path to directory
"XSDPath": "compendiums/services.xsd"	Path to XSD schema for validation
},	
"TechInfoCompendium": {	Localized directory of technologies for mime-type processing.
"XMLPath": "config-perm/bookworm/ tech_info.xml",	Path to directory.
"XSDPath": "compendiums/tech_info.xsd"	Path to XSD schema for validation.
},	
"ValidatorCheck": true,	Enabling/disabling directory validation
"UnsafeHandlers": false	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
}	

The **iw_bookworm.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Configuration Bookworm`	Daemon name
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_bookworm`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_bookworm -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation

Code	Description
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.8 capstack.conf and iw_capstack.service

The **capstack.conf** configuration file:

Content	Description
`{`	
`"Messed3": {`	Object model for **iw_capstack** type Messed3 and its settings

Content	Description
"Format": true	If formatting of XML file queue should be enabled
},	
"Statistics": {...}	See *General section Statistics*
"Logging": {...}	See *General section Logging*
"processors": {	Protocols processors (used processors are described in section UsedProcessors)
"pop3": {	Pop3
"OperatingPorts": [	Ports
110	
]	
},	
"imap4": {	Imap4
"OperatingPorts": [	Ports
143,	
993	
]	
},	
"nrpc": {	NRPC

Content	Description
`"TrackExternal": true,`	If incoming/outgoing messages from/to IBM Lotus Domino should be parsed
`"OperatingPorts": [`	Ports
`1352`	
`],`	
`"TrackInternal": true`	If messages between internal addressees of IBM Lotus Domino should be parsed
`}`	
`},`	
`"NookDir": "/opt/iw/tm5",`	In this section, the working directory of the module is specified. By default – `/opt/iw/tm5`
`"UnsafeSignalHandlers":false,`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"UsedProcessors": {`	This section contains protocols that should be parsed by **iw_capstack** . The process parses the protocol and transforms it into the extension. Then, traffic is sent to **iw_messed** (see section processors for the valid protocol processors list).
`"pop3": true,`	Pop3 parsing. Default value: `true`
`"imap4": true,`	Imap4 parsing. Default value: `true`
`"nrpc": false`	Nrpc parsing. Default value: `false`

Content	Description
`},`	
`"UsedSources": {`	Used data sources for **iw_capstack** are specified in the section. Iscp is the only supported element, but pcap could be used for debugging purposes if required.
`"iscp": true`	At this time, `iscp` is only supported
`},`	
`"MemoryLimits": {`	Memory limits for **iw_capstack** (bytes). (0 - without restrictions. RejectSessionsLimit < DropSessionsLimit < StopAllocationLimit for not null values)
`"RejectSessionsLimit": 4294967296,`	Upon achieving the limit, new sessions could not be created
`"StopAllocationLimit": 0,`	Upon achieving the limit, memory allocation is no longer possible
`"DropSessionsLimit": 0`	Operation threshold, upon crossing which the session dropping mechanism is activated (starting with the most memory consuming).
`},`	
`"Sources": {`	Data source lists for **iw_capstack** are specified here
`"iscp": {`	InfoWatch Sniffer Connection Protocol (proprietary protocol)
`"ListenArea": "capstack",`	Listen area, used in **iw_sniffer** . If a listen area with the specified name is not configured in **iw_sniffer** , but it exists in **iw_capstack** or **iw_proxy** , the error "This area does not exist and interruption is not possible" will be written in the logs upon connection.

Content	Description
`"BaudRate": "max",`	Baud rate limit for `iscp`, "max" - do not set a limit (baud)
`"Niceness": -8,`	Priority value (nice) for threads-handlers of iscp
`"Host": "127.0.0.1",`	**iw_sniffer** IP address
`"Port": 4301`	**iw_sniffer** port
`},`	
`"script": {`	Source used for debugging. NOT USED. To get the script, make "sessiondump": true in *UsedProcessors* . Scripts are written in the `cs-dump` directory by default.
`"InputDir": "scripts"`	
`},`	
`"smtp": {`	NOT USED
`"Host": "127.0.0.1",`	
`"Port": 2525`	
`},`	
`"icap": {`	NOT USED
`"Host": "127.0.0.1",`	
`"Port": 1344`	
`},`	

Content	Description
"devmon": {	NOT USED
"Host": "127.0.0.1",	
"Port": 6559	
},	
"pcap": {	NOT USED. Could be used for debugging purposes. This processing differs from the sniffer processing. Therefore, it could be used only for totally correct dumps without violation of order/skips/double packages.
"Filter": "1:65535",	-
"Speed": "fast",	-
"DefragTimeoutInSec": 60,	-
"InputFile": "input.pcap"	-
}	
},	
"DebugBreak": false,	To send or not to send SIGTRAP (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
"HeartbeatTimeInMs": 257,	Asynchronous internal procedures call interval
"Sheme_liro": "bin/typedef-main.lso",	Path to file with Liro scheme
"UsedObjectModels": {	Used object model (the only one model could be used)

Content	Description
`"Messed3": true,`	Use the Messed3 model
`},`	
`}`	

The **iw_capstack.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Capture Stack`	The daemon name
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_capstack`	The full path and command arguments that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_capstack -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field

Code	Description
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`AmbientCapabilities=CAP_SYS_NICE`	A privilege that enables raising the priority for processes and streams
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled

Code	Description
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.9 cas_config_compiler.conf

Content	Description
`{`	
`"Logging": {...},`	see *General section Logging*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"UnsafeSignalHandlers":false,`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"Analysis": {`	
`"Autoling": {`	Autolinguist training configuration section.
`"AutolingConfigPath": "etc/config-perm/cas/autoling.conf",`	
`"Classifier": {`	Text classifier section. The parameter contains:
`"DictPath": "etc/config-perm/cas/",`	Path to morphological dictionaries.

Content	Description
"LexerJson": "etc/config-perm/cas/lexer.json",	Path to morphological dictionaries configuration.
"Translit": {	
"TranslitConfigPath": "etc/config-perm/cas/onto_translit_table.conf",	Path to transliteration tables.
"Enabled": false	Enabling/disabling the option to add transliterated terms into ontology.
}	
"EnableSchemaCheck": true,	Enabling the check of xml on xsd (disabling substantially increases the configuration loading speed). `true` by default.
"EnableContentSchemaCheck": true,	Enabling the validation of **cas_config.xml** content (true value)
"Images": {	
"ImageClassifier": {	Image classifier training settings section.
"NumClusters": 300,	Number of clusters for quantization.
"NumDictionaryTrainDecriptors": 10000,	Maximum number of training descriptors
"StatModel": {	Machine learning parameters section. Not recommended to change without the skilled person.
"C": 100.0,	The C parameter for some types of SVM (C-SVC, epsilon-SVR, and nu-SVR).
"probability": false,	If the probability of classifier training should be used.

Content	Description
"degree": 3,	The kernel of a classifier function degree.
"shrinking": false,	defining, if the shrinking heuristics should be used.
"eps": 9.9999999999999995e-07,	Set permissibility for terminating criteria.
"p": 0.10000000000000001,	Set a permissible error for terminating criteria.
"KernelType": 2,	The kernel of a classifier function type.
"cache_size": 1000.0,	Cache size (MB).
"coef0": 0.0,	Null coefficient for the kernel function.
"nu": 0.5,	The nu parameter for some types of SVM (nu-SVC, one-class SVM и nu-SVR).
"gamma": 0.5,	The gamma parameter for the kernel of a classifier function.
"SVMType": 0	SVM classifier type
},	
},	
"MatcherConfig": "etc/config-perm/cas/image-matcher.yml"	Text classifier section. The parameter contains:
"SchemaPath": "etc/cas_config.xsd",	Path to morphological dictionaries.

Content	Description
`"Stamper": {},`	Path to morphological dictionaries configuration.
`"Researcher": {`	Section for "Text objects" technology. Not used.
`"ThreadsCount": 1`	The number of threads when compiling technology of regular expressions. The number can be: • if you specify an integer value N bigger than 0, then this number of threads will be allocated • if you specify 0, then a number of threads will be equal to the number of kernels • if you specify an integer value N smaller than 0, then a number of threads will equal (number of kernels - module of the N value specified). In this case, if you specify an unvalid value, that means the one exceeding considerably the number of kernels, then the compilation will run as 1 thread
`}`	
`}`	
`}`	

1.10 cas.conf and iw_cas.service

The **cas.conf** configuration file:

Content	Description

{
    "Logging": {...},
    "ThriftServers": {...},
    "NookDir": "/opt/iw/tm5",
    "Discovery": {...},
    "OPencvThreads": 1,
    "Statistic": {
        "Multiplier": 1000,
        "Enabled": false,
        "Groups": {
            "TechStats": true,
	
	See *General section Logging*
	See *General section ThriftServers*
	In this section, the module working directory is specified. By default, it is `/opt/iw/tm5`.
	See *General section Discovery*
	Configuration of productive capacity of threads being started, which are managed by the internal OpenCV pool. Possible values:
	• 0 or 1 – by default;
	• >1 – memory consumption increase (several GB) when using image-processing technologies and enabling the appropriate protected objects;
	• -1 – automatic calculation of threads based on a number of processors/kernels in the system.
	Section for statistical data collection
	A multiplier. As many functions work during a short period, their data is multiplied in statistics. Otherwise, some numbers will be omitted.
	Whether to enable/disable statistical data collection
	Statistical data groups. This section is to specify in which groups statistical data collection is enabled/disabled.
	Statistics of technologies

Content	Description
`"CasCacheStats": true,`	Statistics of **iw_cas** cache
`"TechEnableStats": true,`	Statistics of enabling technologies
`"CasWorkStats": true,`	Statistics of **iw_cas** operation
`"TechResultStats": true`	Statistics of technology operation results
`}`	
`},`	
`"Bookworm": {...},`	See *General section Bookworm*
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"UnsafeSignalHandlers":false,`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/ disabling this parameter is not recommended without consultation with developers.
`"Analysis": {`	
`"Autoling": {`	Section for Autolinguist settings
`"Enabled": false,`	Technnology enabling (value – `true`) and disabling (value – `false`)
`"MinTermLength": 3,`	Minimum length of terms found in text
`"MinTextWordCount": 10,`	Minimum amount of words in text to be analysed

Content	Description
"MinUniqueTermCount": 5,	Minimum number of unique terms found in the text to be analyzed
"RelevanceThreshold": 0.1,	Minimum probability threshold below which a category is not considered triggered
"ResultLimits": {	Limits to the amount of results of the technology in the event context
"MaxEntriesPerCategory": 50	Maximum number of terms from an Autolinguist category that are highlighted in the text if the category is triggered
}	
},	
"FormAnalysis": {	Detector of forms
"MaxHighlightedRows": 50,	Maximum number of rows of the form to be highlighted. By default, it is `50`.
"StopWordsPath": "etc/config-perm/cas/form_stopwords.txt",	Path to stop words dictionary
"Enabled": "true",	Enabling (`true`) and disabling (`false`) of analysis technologies
"LongFieldThreshold": 0.20000000298023224,	Long fields threshold (more than one word) in the intercepted form, used in the heuristic formula for comparison algorithm selection. By default, it is `0.2`.
"MinMatchedRows": 1	The minimum number of matched rows to activate the form. It has an influence on all forms. By default, it is `1`.
},	
"Vector": {	Vector image analysis technology

Content	Description
"Enabled": true	Enabling (`true`) and disabling (`false`) of analysis technologies
},	
"Researcher": {	Text object detector
"LuaReplacesPath": "etc/config-perm/cas/lua_replaces.json",	Path to the file with symbol list to be replaced for the specified ones before sending the text to the verification function
"Enabled": true,	Enabling (`true`) and disabling (`false`) of analysis technologies.
"ResultLimits": {	Event-context technology results limits
"MaxEntriesPerInstance": 50,	The maximum number of text objects found to be written to the context. This means, **how many times maximum** the unique object can be found. From the `"MaxEntriesPerInstance"` and `"MaxInstancesPerTextObject"` parameters, only the former one is used in case the text object template is specified as a string. The default value is `5 0` .
"MaxInstancesPerTextObject": 50	The maximum number of text object occurrences to be written to the context. This means, how many different object values can be found. From the " `MaxEntriesPerInstance` " and " `MaxInstancesPerTextObject` " parameters, only the latter one is used in case the text object template is set as a regular expression. The default value is `50.`
}	
},	
"Classifier": {	Content analysis

Content	Description
`"RelevanceThreshold": 0.1,`	Relevance threshold. By default, it is `0.10000000000000001`
`"Enabled": true,`	Enabling (`true`) and disabling (`false`) of analysis technologies.
`"ResultLimits": {`	Limits for the number of event-context technology results
`"MaxEntriesPerTerm": 50`	The maximum number of terms entries for each category, which should be written to the context. By default, it is `5 0` .
`},`	
`"Speller": {`	Speller. Technology is disabled by default
`"Enabled": true,`	Enabling (`true`) and disabling (`false`) of analysis technologies.
"SpellerDictsPath": "etc/config-perm/cas/"	The path to the directory containing morphological dictionaries
`},`	
`"Translit": {`	Transliteration. The technology is disabled by default. If transliteration is used for traffic analysis, then case-sensitive term detection does not work (terms with uppercase letters are not detected).
`"TranslitConfigPath": "etc/config-perm/cas/translit_table.txt",`	The path to the exchange tables for transliteration
`"Enabled": true`	Enabling (`true`) and disabling (`false`) of analysis technologies.

Content	Description
}	
},	
"Stamper": {	Reference document detector.
"Enabled": true,	Enabling (`true`) and disabling (`false`) of analysis technologies.
"ResultLimits": {	Event-context technology results limits
"MaxEntriesPerFingerprint": 50	Maximum number of reference documents entries to be written to the context. The default value is `5 0` .
}	
},	
"Images": {	Image detector
"MatcherConfig": "etc/config-perm/cas/image-matcher.yml",	Path to analysis configuration file (`image-matcher.yml`)
"KeypointMatcher": {	Small image detector technology. Used for credit cards.
"Enabled": true	
},	
"ImageMaxWidth": 50000,	Maximum image width. The System does not process images wider than this value. The default value is `50 000` .
"ImageMaxHeigth": 50000,	Maximum image height. The System does not process images of a larger height. The default value is `50 000` .

Content	Description
`"Barcode": {`	Barcode recognition technology. Returns text.
`"Enabled": false`	Enabling (`true`) and disabling (`false`) of analysis technologies
`},`	
`"StampDetector": {`	Stamp detector
`"Enabled": true`	Enabling (`true`) and disabling (`false`) of analysis technologies
`},`	
`"ResultLimits": {`	Event-context technology results limits
`"MaxFingerprint": 50`	The maximum number of found fingerprints to be written to the context. The default value is `5 0` .
`},`	
`"ImageClassifier": {`	Image classifier technology to work with passports, drawings, maps.
`"Enabled": true`	
`},`	
`},`	
`"Exclusions": {`	Exclusions
`"Enabled": false`	Enabling (`true`) and disabling (`false`) of analysis technologies
`},`	

Content	Description
`"TableAnalysis": {`	Database unloading detector
`"MinWords": 10,`	The minimum number of words in a database unloadings file, sufficient to detect unloading. All field names and data from the table are included in this value. It is required having an interword space. The default value is `10`.
`"Enabled": true,`	Enabling (`true`) and disabling (`false`) of analysis technologies
`"MaxHighlightedWords": 200`	Maximum number of words from unloading to be highlighted. The default value is `200`.
`"StopOnLimitExceed": true`	The parameter used for the database unloading technology when applying the *All words in one cell following each other in any order* search type. Values: • If `true`, the search algorithm stops as soon as it finds the minimum number of lines required for triggering. Used for optimization. • If `false`, the algorithm checks all the lines in the sample.
`"MaxCheckLimit": 0`	The parameter used for the database unloading technology when applying the *All words in one cell following each other in any order* search type. Effective only if optimization is disabled (`"StopOnLimitExceed": false`). If the value is greater than `0`: • For unloadings with keys, the System continues searching until it finds the specified maximum number of lines with unique keys; • For unloadings without keys, the System continues searching until it finds the specified maximum number of unique lines.
`}`	

Content	Description
`},`	
`"Config": {`	
`"EnableSchemaCheck": true,`	Enabling the check of xml on xsd (disabling substantially increases the configuration loading speed). The default value is `true`.
`"CacheMaxSize": 10000,`	Number of analysis results saved in the cache. The number of cache elements. The default value is `10000`.
`"SchemaPath": "etc/cas_config.xsd",`	Path to the xsd file used for xml configuration validation. The default value is `etc/cas_config.xsd`.
`"Path": "etc/config/cas"`	Path to the cas file. The default value is `etc/config/cas`.
`},`	
}	

The **iw_cas.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Content Analysis Server`	Daemon name
`After=network-online.service iwtm-consul.service postgresql-9.6.service oracle.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified

Code	Description
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre as the **root** user
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_cas`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_cas -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited

Code	Description
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in the multi-user mode

1.11 configerator.conf and iw_configerator.service

The **configerator.conf** configuration file:

Content	Description
`{`	
`"UnsafeSignalHandlers":false,`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/ disabling this parameter is not recommended without consultation with developers.
`"Debug": false,`	Switch to Debug mode (increases the logging level).
`"ConfigurationsCount": 100,`	Number of configurations saved in `etc/ configerator/` (The value could be increased if the connections are too slow and the configurations do not reach DM. To save the disc space the value could be decreased). Default value - `100`

Content	Description
`"WebSocketURL": "https://localhost/api/notify/publish/configUpdate",`	URL, where the configuration update notifications are sent. It is recommended changing, if nginx has a non-standard configuration.
`"Logging": {`	Logging configuration.
`"Backends": {`	Backends list.
`"DefaultDirectory": "/var/log/infowatch/",`	Configuration saving directory.
`"Descriptions": {`	Format description for every logging type and specific settings.
`"File": {`	Separate file output (the directory to create a file in is specified in `DefaultDirectory`).
`"FileName": "configerator.log"`	File name (basename) to save a log.
`}`	
`}`	
`}`	
`}`	
`}`	

The **iw_configerator.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified

Code	Description
`Description=InfoWatch Traffic Monitor Indexer`	Daemon name
`After=network-online.service iwtm-consul.service postgresql-9.6.service oracle.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_configerator`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_configerator -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation

Code	Description
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`EnvironmentFile=-/etc/default/iwtm`	The path to the environment file
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.12 deliver.conf and iw_deliver.service

The **deliver.conf** configuration file:

Content	Description
`{`	
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.

Content	Description
`"Deliver": {`	Specific settings of **iw_deliver** daemon.
`"IdleTimeoutInSec": 100,`	Idle timeout in case of empty queue for sending before the next iteration (seconds).
`"MaxPickObjectsCount": 20,`	Maximum number of objects, picked by **iw_deliver** from database for sending.
`"MaxSentAttempt": 10,`	Maximum number of attempts to send an object in case of error occured.
`"SentTimeoutInSec": 150`	Object resend interval (seconds).
`},`	
`"Logging": {...}`	see *General section Logging*
`"NookDir": "/opt/iw/tm5",`	In this section the module working directory is specified. By default – `/opt/iw/tm5`
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/ disabling this parameter is not recommended without consultation with developers.
`}`	

The **iw_deliver.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Deliver`	Daemon name

Code	Description
`After=network-online.service iwtm-consul.service postgresql-9.6.service oracle.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_deliver`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_deliver -p /opt/iw/tm5/etc --backend $DB_BACKEND`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated

Code	Description
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`EnvironmentFile=-/etc/default/iwtm`	The path to the environment file
`[Install]`	Defines the behavior of a daemon when it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.13 extractors.conf

Content	Description
`{`	
`"MergeDetector": {`	Configuration of splicing detector
`"Enabled": true,`	Global enabling/disabling of splicing detector
`"Optimization": "Fast",`	Splicing detection optimization settings. The values can be as follows: • `Fast` check – only files that are smaller than a certain size are to be checked. Detecting of final signatures is disabled. File threshold size is equal to

Content	Description
	the size of area, used by detector (1 MB) to avoid additional file opening. When PIRE is enabled, the matching between initial and final signatures is being checked, the ones that were found during the file type detection. • `Moderate` check – the files of all sizes are to be checked. Final signatures detection is held in the files, where the recognized format has well-known final signature and only in the area, where it should be located.
`"EOFConfigPath": "/opt/iw/tm5/etc/mergedetector/eof_formats.json",`	Path to **EOF** configuration mechanism file (Comparing file size with the CFB title data (only for formats, based on MS CFB))
`"SizeConfigPath": "/opt/iw/tm5/etc/mergedetector/size_formats.json",`	Path to **Size** configuration mechanism file (Comparing file size with the value, recorded in a known place) (for different formats having the size field). Applies to the formats, consisting of blocks series having size recorded.
`"CFBConfigPath": "/opt/iw/tm5/etc/mergedetector/cfb_formats.json",`	Path to **CFB** configuration mechanism file (Searching for formats signatures)
`"ProbabilityThreshold": 1e-3`	OEF detector threshold when using PIRE. Spacing: [1, 0]. This value is regulating the detector sensitivity. The bigger value, the more sensitive detector is, but the number of false positive is growing as well. Physical meaning: this value is being compared to the possibility of finding suspicious signatures within the random data. **Important!** Using PIRE is **prohibited** in splicing detector.
`},`	
`"NgramsPath": "etc/typedetector/ngrams",`	Path to JSON files, containing profile extractors convertings to their N-Gram frequencies
`"InlineBase64": {`	Configuration of the heuristic algorithm for Base64 detection
`"Enabled": false`	Enabling/disabling the heuristic algorithm for Base64 detection. If `true`, the System searches for Base64 sequences within files even if a file includes regular text as well. In case the System detects such a sequence, it displays

Content	Description
	the decoded content (text or binary data) as a child branch of the file in the detailed event viewing form. **Important!** Note that the heuristic algorithm: • Can cause false positives; • Does not guarantee detection of incorrect Base64 sequencies (for example, if special characters are missing).
},	
"MaxMultiScannerSize": 2000,	Scanner size in bites. It is calculated nontrivially; on a first approximation, it is proportional to product of these numbers: the number of states multiplied by the number of equivalent symbols classes. The parameter affects the memory speed and size, while creating scanners (once, when initializing), and their number (on each detection).
"MaxRecursiveLevel": 100,	Maximum level of the initial nesting of files to be unpacked by extractor. If the nesting level in archive exceeds the value, or the files containing there are corrupted, then extracted data will not be analyzed.
"TempDir": "tmp",	Temporary directory for decompressed files
"Dreamcatcher": "dreamcatcher",	Directory for files unable to decompress
"UsePIRE": false	Enabling/disabling PIRE regular expressions to detect the files and splicing type. **Important!** Using PIRE is **prohibited** in splicing detector.
}	

cfb_formats.json configuration file of **CFB** mechanism:

Content	Description
[	
{	

Content	Description
"name": "msole"	List of formats based on search mechanism of **MS CFB** signature formats, detected by the mechanism
},	
{	
"name": "doc"	
},	
...	
]	

size_formats.json configuration file of **Size** mechanism:

Content	Description
[	
{	
"name": "avi",	Format, detected by the mechanism
"byte_order": "le",	Bytes order in the size field
"size_offset" : 4,	Size field offset from the blockhead
"header_size" : 8	Heading size in the top of the file
},	
...	
]	

eof_formats.json configuration file of **EOF** mechanism:

Content	**Description**
[	
{	
"name": "odt"	The format detected by the mechanism
"bof" : "PK",	Top of the file signature (only used when PIRE is disabled)
"eof" : "0x50,0x4B,0x05,0x06",	End of file signature (only used when PIRE is disabled). You can list multiple options that indicate the end of file. These options must be separated by commas. Semicolons are not allowed
"has_multiple_eof" : true,	Whether the format allows multiple end signatures
"end_offset" : 18,	End signature offset relatively to the end of file
"may_include_any": false,	Whether any other formats are allowed inside of this one
"may_include_formats": ["tiff_big_endian"],	If other formats cannot be included, specify allowed formats in the list.
"base_format": "zip"	The format that is the base for it.
},	
...	
]	

1.14 icap.conf and iw_icap.service

The **icap.conf** configuration file:

Content	Description
{	
"Logging": {...}	See *General section Logging*
"NookDir": "/opt/iw/tm5",	In this section, the module working directory is specified. By default – `/opt/iw/tm5`
"ThriftClients": {...},	See *General section ThriftClients*
"UnsafeSignalHandlers":false	Support for working with unhandled signals. Disabled by default (`false`). Once the `true` value is set, you can use "unsafe" signal handlers in the code (e.g. SIGSEVG). We recommend not adding, enabling or disabling this parameter without consulting our developers
"Bookworm": {...}	See *General section Bookworm*
"AnalysisClient": {	Settings for data analysis client
"BindataMaxSizeInMb": 1024,	Maximum size of a file to be processed (MB). The default value is `1024`
"Cas": {	**iw_cas** settings
"SleepIntervalInSec": 5,	Timeout when trying to connect
"ConnectTryCount": 200	Number of attempts to connect to **iw_cas**
"ConsulKVWatchPOrt": 9997,	A port which Consul uses to inform the interceptor about kv (key-value) changes and the necessity to update values
},	
"Pas": {	**iw_pas** settings

Content	Description
"SleepIntervalInSec": 5,	Timeout when trying to connect
"ConnectTryCount": 200	Number of attempts to connect to **iw_pas**
}	
},	
"ExtractorCache": {	Extractors cache parameters.
"ExtractorCacheDepth": 0,	Maximum number of objects stored in a cache. The default value is `0` (cache is disabled)
"ExtractorCacheClearExistingDir": true,	The flag indicating whether to delete the contents of the daemon cache directory at startup, if it already exists and is not empty. The default value is `true` (delete)
"ExtractorCacheMaxSize": 107374182400,	Cache maximum size, reserved on the disk (in bytes). Default value – `107374182400` (100 GB)
"ExtractorCacheFileMaxSize": 10485760,	Maximum size of a file to be stored in cache (in bytes). Default value – `10485760` (10 MB)
"ExtractorCacheShards": 0	Number of streams to store data in a cache. If the value is 0, the number of System streams, otherwise the specified number of streams (preferably no more than the number of System streams, by default `0`).
},	
"ICAP": {	
"SocketIoDump": false,	Save all data passing through ICAP in dumps, including protocol data (value `true`). If the value is `false` , only the headings are saved. In this case, it is

Content	Description
	impossible to use the dump for resending the data to ICAP
`"SessionTimeoutSec": 330,`	Idle period (seconds). Once it expires, the session will be interrupted
`"MinDataLength": 10,`	Minimum volume (in bytes) of a URL variable which will be included in the text block being passed to content analysis
`"ListenPort": 1344,`	Port, on which ICAP server listens for HTTP requests outgoing from a proxy server with an ICAP client. You can use port numbers starting from `1025`
`"IcapDumpPath": "",`	Path for saving objects passed through ICAP
`"LogTimer": false,`	Logging HTTP requests processing time. To enable logging, set the value to `true`
`"MaxAsyncThreads": 8192,`	Number of threads for asynchronous processing of data interrupted by ICAP (if "AsyncCheck": true).
`"MaxConnections": 100,`	Recommended number of connections to **iw_icap**
`"NumExtractorThreads": 0,`	• Value `0` – old mode. The number of started extractors is equal to the number of threads and each object will be processed sequentially by one thread (for example, an archive with 100 files) • Value > `0` – new mode. In this case, if the object contains attachments (the archive), they will be processed by a maximum of `NumExtractorThreads` threads. And, irrespective of the number of working threads, only `NumExtractorThreads` extractors can be run simultaneously
`"DisableIPv6": false,`	Disable (`DisableIPv6 = true`) and enable (`DisableIPv6 = false`) IPv6 connection support

Content	Description
	If IPv6 support is disabled on the ICAP server, **iw_icap** will start and function in the normal mode only if `DisableIPv6 = true`
`"AsyncCheck": true,`	First, ignoring the data, then starting the data analysis. Default value `false`
`"PathTemporary": "tmp/icap",`	Path to ICAP server temporary files (default value `/opt/iw/tm5/tmp/icap`).
`"ErrorHTML": "etc/error.html",`	Path to HTML file containing a message to be displayed in a web browser, if a user request was blocked by the System. Default value `etc/error.html`. (Path is specified with regard to the current directory, which is the root directory of the System)
`"ZimbraMail": false,`	Zimbra mail server parameter
`"MaxMemoryBlock": 4096,`	Maximum memory size (KB) which can be occupied by one object
`"MaxChunkLengthMb": 0,`	Maximum chunk size (MB). The default value is `0`, which means that the size is unlimited
`"LogBlock": false,`	Blocked HTTP requests logging. No logging by default
`"ForceKeepAlive": true,`	Use one TCP connection for sending and receiving multiple HTTP requests and responses instead of opening a new connection for every request-response pair
`"FormatXmlContext": false,`	XML formatting, used for debugging and ease of perception
`"AllMethods": false,`	Enable processing of all types of HTTP requests (POST and PUT requests). Default value is `false`
`"MinTextLength": 5`	Minimum text size (in bytes), for which the content analysis will be performed. Setting this parameter allows you to

Content	Description
	reduce the load on the content analysis server. For example, by rejecting content analysis of a text whose size is so small that it does not allow to convey meaningful messages
`},`	
`"DebugBreak": false,`	Whether to send SIGTRAP (SIGBREAK in Windows) while any exception handling. Used for debugging purposes
`"Statistics": {...},`	See *General section Statistics*
`}`	

The **iw_icap.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Indexer`	Daemon name
`After=network-online.service iwtm-consul.service postgresql-9.6.service oracle.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_icap`	The full path and arguments of the command that should be executed before the main process is started

Code	Description
`ExecStart=/opt/iw/tm5/bin/iw_icap -p /opt/iw/tm5/etc`	The full path and arguments of the command that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration, if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the daemon to stop before marking it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump file size (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)

Code	Description
`[Install]`	Defines the behavior of a daemon if it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.15 image2text_fre.conf

The **image2text_fre.conf** configuration file:

Content	Description
`{`	
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"FREngine": {`	OCR Abbyy Fine Reader engine settings.
`"ImageFormats": {`	Size limits for images to be processed.
`"ColorChecker": {`	Filter of colour section
`"target_image_area_sqrt": 300,`	Target area, to which the image is to be adjusted before proceeding to analysis (to speed up the analysis)
`"significant_colors_number_threshold" : 30,`	Threshhold of number of colours, that overcame the threshhold `significance_threshold.` If the number is bigger than this threshold, then image is considered scan copy and will not be processed by OCR.
`"significance_threshold" : 0.005,`	Threshold of fraction of colour in image. If the fraction of colour is bigger than this threshold, such colour will be considered in the threshhold `significant_colors_number_threshold` .
`"dark_border" : 40,`	Dark border of colour. The border defines which colours from greyscale will be outcasted from consideration when calculating values for the thresholds `significance_threshold` and `significant_colors_number_threshold.`

Content	Description
`"light_border" : 220,`	Light border of colour. The border defines which colours from greyscale will be outcasted from consideration when calculating values for the thresholds `significance_threshold` and `significant_colors_number_threshold`
`"Enabled" : true`	Activation of colour filter. Enabled by default
}	
"default": {	Default values
"MinHeightInPx": 12,	Minimum height of image (pixels).
"MinLengthInPx": 140,	Minimum length of image to be sent.
"MinSizeInKb": 40,	Minimum size of image to be sent (KB).
"MaxSizeInKb": 1536	Maximum size of image to be sent (KB).
}	
`"GIF": {`	Redefining of default values (section default) for gif format images.
"MinSizeInKb": 40	Minimum size of image to be sent (KB).
`},`	
"PNG": {	Redefining of default values (section default) for png format images.
	Minimum size of image to be sent (KB).

Content	Description
"MinSizeInKb": 40	
},	
"JPEG": {	Redefining of default values (section default) for jpeg format images.
"MinSizeInKb": 40	Minimum size of image to be sent (KB).
}	
},	
"ABBYYProfile": "etc/FRProfile.ini",	Path to engine settings.
"Pwd": "Type password for serial here.",	Licence password
"SerNum": "Type serial number here."	Licence serial number
},	
"Logging": {...}	see *General section Logging*
"NookDir": "/opt/iw/tm5",	In this section the module working directory is specified. By default – `/opt/iw/tm5`
"UnsafeSignalHandlers":false	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
}	

1.16 image2text_ts.conf

Content	Description
`{`	
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"Logging": {...}`	see *General section Logging*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"Tesseract": {`	OCR Tesseract engine settings
`"ImageFormats": {`	Size limitation for images processed
`"ColorChecker": {`	Filter of colour section
`"target_image_area_sqrt": 300,`	Target area, to which the image is to be adjusted before proceeding to analysis (to speed up the analysis)
`"significant_colors_number_threshold" : 30,`	Threshhold of number of colours, that overcame the threshhold `significance_threshold.` If the number is bigger than this threshold, then image is considered scan copy and will not be processed by OCR.
`"significance_threshold" : 0.005,`	Threshold of fraction of colour in image. If the fraction of colour is bigger than this threshold, such colour will be considered in the threshhold `significant_colors_number_threshold` .
`"dark_border" : 40,`	Dark border of colour. The border defines which colours from greyscale will be outcasted from consideration when calculating values for the thresholds `significance_threshold` and

Content	Description
	`significant_colors_number_threshold`
`"light_border" : 220,`	Light border of colour. The border defines which colours from greyscale will be outcasted from consideration when calculating values for the thresholds `significance_threshold` and `significant_colors_number_threshold`
`"Enabled" : true`	Activation of colour filter. Enabled by default
}	
"default": {	Default values
"MinHeightInPx": 12,	Minimum image height (pixels)
"MinLengthInPx": 140,	Minimum image length (pixels)
"MinSizeInKb": 40,	Minimum size of the picture to be sent (KB)
"MaxSizeInKb": 1536,	Maximum size of the picture to be sent (KB)
}	
"GIF": {	Redefining the default values (section default) for gif format images
"MinSizeInKb": 40	Minimum size of the picture to be sent (KB)
},	
"PNG": {	Redefining the default values (section default) for png format images
"MinSizeInKb": 40	Minimum size of the picture to be sent (KB)

Content	Description
},	
"JPEG": {	Redefining the default values (section default) for jpeg format images
"MinSizeInKb": 40	Minimum size of the picture to be sent (KB)
}	
},	
"DiagnosticMode": false,	Enable diagnostic mode. Error messages will be written by the extractor in an output file.
"TesseractDataPath": "ocr",	Path to Tesseract service data
"TesseractLanguages": "rus, eng"	Recognizable languages addition
}	
}	

1.17 image_autoling.conf and iw_image_autoling.service

Content	Description
{	
"Logging": {...},	See *General section Logging*
"NookDir": "/opt/iw/tm5",	In this section, the module working directory is specified. By default – `/opt/iw/tm5`.

Content	Description
`"Bookworm": {...},`	See *General section Bookworm*
`"DebugBreak": false,`	Whether to send SIGTRAP (SIGBREAK in Windows) while any exception handling. Used for debugging purposes
`"UnsafeSignalHandlers":false,`	Supporting operations with unprocessed signals. By default, the option is disabled (`false`). When setting the `true` value, you can set the handler of "unsafe" signals in the code (for example, SIGSEVG). We do not recommend adding, enabling/disabling this option without consulting with developers.
`"Analysis": {`	
`"Images"`	Images detector
`"ImageClassifier": {`	Section to configure graphical classifier learning
`"NumClusters": 300,`	Number of clusters to quant
`"NumDictionaryTrainDecriptors": 10000,`	Maximum number of descriptors to learn
`"StatModel": {`	Machine learning parameters section. We do not recommend to edit it without involving specialists
`"C": 100.0,`	C parameter for some types of SVM (C-SVC, epsilon-SVR, and nu-SVR).
`"probability": false,`	Whether to use probability when training a classifier
`"degree": 3,`	Degree of function of the classifier core
`"shrinking": false,`	Specifies if narrowing heuristic should be used.
`"eps": 1e-07,`	Sets the acceptability of termination criteria

Content	Description
"p": 0.1,	Admission of termination criteria
"KernelType": 2,	Classifier core function type
"cache_size": 1000.0,	Cache size in MB
"coef0": 0.0,	Zero coefficient for core function
"nu": 0.5,	Nu parameter for some types of SVM (nu-SVC, one-class SVM, and nu-SVR)
"gamma": 0.5,	Gamma parameter for classifier core function
"SVMType": 0	SVM classifier type
`},`	
`},`	
"ImageMaxWidth": 50000,	Maximum image width. In case the image is greater, it cannot be processed by the System. The default value is `50000`.
"ImageMaxHeigth": 50000,	Maximum image height. In case the image is higher, it cannot be processed by the System. The default value is `50000`.
"MatcherConfig": "etc/config-perm/cas/image-matcher.yml",	Path to a file containing precise analysis settings (image-matcher.yml)
}	
},	
"Config": {	
"EnableContentSchemaCheck": true,	Enabling (the `true` value) validation for the contents of the file **cas_config.xml**

Content	Description
`"EnableCrossvalidate": false,`	Enabling/disabling cross-validation
`"EnableSchemaCheck": true,`	Enabling XML validation against XSD (disabling this significantly increases the speed of loading the configuration). The default value is `true`
`"SchemaPath": "etc/cas_config.xsd",`	Path to the XSD file against which validity of XML configuration is checked. The default value is `etc/cas_config.xsd`
`"Path": "etc/config/text_autoling",`	Path to the CAS configuration file. The default value is `etc/config/cas`
`"TempDir": "tmp",`	Path to temporary files of the service
`"VariativeDataDir": "var/tech/text_autoling"`	Directory for long-term data storage
`},`	
`"Curler": {`	Section with curl backend settings
`"Active": {`	
`"AlertSocketPath": "wss://localhost/api/notify/listen/autolingUpdate",`	WebSocket address where the signal concerning the Active configuration change is sent
`"UpdaterHostName": "https://localhost/xapi/configurationState/autoling",`	Configuration update address
`"UpdaterPath": "/xapi/configugationState/image_classifier"`	Path to WebSocket
`},`	
`"AlertTimeoutSec": 5,`	Timeout after which control is returned to the calling thread, if the configuration has not been changed before this

Content	Description
`"CurlMaxThreads": 10,`	Number of file download threads
`"CurlOptSslVerifyHost": false,`	HTTP server connection settings for loading configuration updates **Note:** these are service fields and they are not intended for user editing
`"CurlOptSslVerifyPeer": false,`	Whether to require certificate verification
`"CurlOptTcpKeepAlive": true,`	The `keep-alive` parameter of TCP connection
`"Sandbox": {`	
`"AlertSocketPath": "wss://localhost/api/notify/listen/autolingUpdateSb",`	WebSocket address where the signal concerning the Sandbox configuration change is sent
`"UpdaterHostName": "https://localhost/xapi/configurationState/autoling_sb"`	Configuration update address from Sandbox
`},`	
`"TokenPath": "/opt/iw/tm5/etc/config/access_control/tokens.list"`	
`"Discovery": {...}`	See *General section Discovery*
`"ThriftClients": {...},`	See. *General section ThriftClients*
`"ThriftServers": {`	Thrift server settings
`"iw-image-autoling": {`	Section of the settings of the thrift server (`iw-image-autoling`)
`"AuthenticateClient": false,`	Whether to request authentication
`"CertificatePath": "etc/cert/server.pem",`	Path to the server certificate signed with the root certificate

Content	Description
`"Port": 9103,`	Incoming connections port
`"PrivateKeyPath": "etc/cert/private_key.pem",`	Path to private key
`"ServerType": "threaded",`	Server type
`"TCPKeepaliveProbing": {`	Connection activity monitoring section
`"Enabled": true,`	Enabling/disabling an option
`"ProbesCount": 10,`	Number of sent `keep-alive` packages
`"ProbesIntervalSec": 30,`	Interval between sending `keep-alive` packages (in seconds)
`"StartProbingInSec": 300`	Time during which there is no activity on the connection and after which the sending of `keep-alive` packages begins (in seconds)

iw_image_autoling.service unit file

Code	Description
`[Unit]`	Section to define daemon metadata and configure its interaction with other daemons
`Description=InfoWatch Traffic Monitor Graphical Object Classifier`	Daemon name
`After=network-online.target iwtm-consul.service`	Daemons to be run before starting the current daemon
`[Service]`	Section to configure daemon running
`Type=simple`	Daemon running type. `simple` – daemon is started and goes into standby mode in the console

Code	Description
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` using **root** user
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check coredumps.sh -d iw_image_autoling`	Full path and arguments of a command to be performed before running the main process
`ExecStart=/opt/iw/tm5/bin/iw_image_autoling -p /opt/iw/tm5/etc`	Full path and arguments of a command to be performed before running the daemon. To be run from the user specified in `User`
`ExecStop=/bin/kill -s SIGTERM $MAINPID`	Command to stop the daemon. If not specified, the process will be terminated when the daemon is stopped. To be run from the user specified in `User`
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	Command to reload the daemon's configuration in case it is available. To be run from the user specified in `User`
`Restart=on-failure`	Command to restart the daemon in case it fails or it is stopped. `on-failure` value means the daemon can be restarted in case it was stopped with a non-zero return code or it was stopped by signal (`kill <pid_Daemon>`)
`RestartSec=5`	Standby time before trying to restart the daemon
`RestartPreventExitStatus=SIGKILL`	Command to force the daemon's shutdown
`TimeoutStopSec=0`	Time required for the System to wait for the daemon's stop before marking it unavailable or forcibly shut down
`User=iwtm`	Name of the user from whom the daemon is run
`Group=iwtm`	User group name
`LimitNOFILE=32768`	Maximum number of opened files
`LimitFSIZE=infinity`	Maximum file size (KB). `infinity` – no limitation
`LimitNPROC=65536`	Maximum number of processes
`LimitCORE=infinity`	Coredump file size limit (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)

Code	Description
`[Install]`	Defines the behavior of the daemon if it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the System is loaded in multi-user mode

1.18 indexer.conf and iw_indexer.service

The **indexer.conf** configuration file:

Content	Description
`{`	
`"Bookworm": {...}`	See *General section Bookworm*
`"DebugBreak": false,`	Whether SIGTRAP should be sent (SIGBREAK in Windows) while any exception handling. Used for debugging purposes
`"Indexer": {`	Indexer configuration is stored in the file. Indexing parameters are applied to **iw_indexer** module In the `Indexer` section, parameters for interaction with database (DB) and indexing methods are specified
`"ArchiveDir": "sphinx_archive",`	Path to the archived indexes directory. If the working index construction as per event areas is disabled (`false`), the words found via full-text search will not be highlighted
`"BuildIndexByContent": true,`	Content index. Used to highlight required content within the event content tree in detailed form of preview. Configuration is automatically disabled when zonal index is used

Content	Description
`"BuildIndexZoned": false,`	Zonal index. Once enabled, new tablespaces are to be indexed only within the zonal index. Existing old indexes will be stored
`"DBPrefetchRowCount": 131072,`	Number of rows fetched from DB at a time
`"DebugNoCleanTemp": false,`	Do not delete temporary files *.xmlpipe2*. (Use `true` only for debugging purposes)
`"ExpireDeltaSecs": 43200,`	Time after which the delta indexes are deleted after adding new tablespaces
`"FetchConcurrency": 0,`	Number of connections with DB and threads for text objects loading and `xmlpipe2` files generation. Default value: `0` (is equal to `ProcManConcurrency`, divided into the number of index types being under construction (zonal index is not taken into consideration): • general index only • general index and index by contents
`"FetchSize": 1200,`	Number of objects requested from DB by the service for subsequent indexing
`"IgnoreMalaysianDict": true,`	Disable Malaysian morphology
`"IndexExactWords": false,`	Possibility to make requests without consideration of morphology. Enabling this option (`true`) decreases the speed of indexing and increases the size of indexes and RAM consumption
`"IndexRotateTimeoutInMs": 60000,`	Index rotation time (msec).
`"MinWordLen": 1,`	The parameter affects the **min_word_len** value in the index configuration **searchd**. The value of the parameter determines the minimum word length to be indexed. If the length of the word is shorter than the value, they do not get into the index and search by these words does not work. Nonetheless, they

Content	Description
	still affect the `distance` between indexed words, so this should be considered when constructing search queries with exact phrase match Experimental parameter. It is expected that the `2` or `3` value will help to decrease the index file size a bit with no significant sacrifice of search quality. Range: from `1` to `42`. The value affects the *compatible magic* index, i.e. reindexing is not required and not performed, but new documents are added to other indexes and the search does work in new and old index files
`"PipeDir": "tmp/sphinx",`	Directory for temporary files needed to construct the index
`"ProcManConcurrency": 0,`	Maximum number of concurrently started indexing processes (by default, it is determined automatically and is equal to the number of processor cores)
`"SearchdPath": "/opt/iw/tm5/bin/searchd",`	Path to **searchd**. It can be different depending on RHEL or Astra Linux
`"ServicePath": "/sbin/service",`	Path to the service script
`"SphinxBaseDir": "/var/lib/sphinx",`	Directory for the **searchd** daemon index files. Default value: `/var/lib/sphinx`
`"SphinxConfigDir": "etc/sphinx",`	Directory for the **searchd** daemon generated configuration files. Default value: `etc/sphinx`
`"SphinxTMConfigPath": "etc/sphinx.conf",`	Path to Sphinx systemic configuration. Default value: `etc/sphinx.conf`
`"TarPath": "/bin/tar",`	Path to a file archiver. Default value: `/bin/tar`
`"TextPrefetchSizeInMb": 700,`	Indexed object size limit (MB). Default value: `700`

Content	Description
`"WaitTimeInSecs": 30`	Time between attempts to retrieve objects from DB. Default value: `30`
`"CharTable": ""`	Table of symbols. Parameter enabling is optional. To be used when it is contained within the configuration file. When not present, the table of symbols will be generated by default ("0..9, _, a..z, U+430..U+44F, U+451, A..Z->a..z, U+401->U+451, U+410..U+42F->U+430..U+44F").
`},`	
`"Logging": {...}`	See *General section Logging*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`
`"ThriftClients": {...},`	See *General section ThriftClients*
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, you can use "unsafe" handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers
`}`	

The **iw_indexer.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Indexer`	Daemon name
`After=network-online.service iwtm-consul.service postgresql-9.6.service oracle.service`	Daemons that will be started before the current one

Code	Description
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_indexer`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_indexer -p /opt/iw/tm5/etc --backend $DB_BACKEND`	The full path and arguments of the command that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the daemon to stop before marking the it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group

Code	Description
`LimitNOFILE=584000`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump file size (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)
`EnvironmentFile=-/etc/default/iwtm`	Path to the environment file
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.19 is.conf and iw_is.service

is.conf configuration file
iw_is - Universal indexation system not linked to the search system and is meant to indexing metainformation.

Code	Description
`{`	
`"Fetchers": [`	Fetchers section - these are modules performing data sampling for indexing
`{`	
`"CommandLineArgs": [`	Command line attributes
`"--backend",`	
`"oracle"`	
`],`	

Code	Description
`"Settings": {},`	Fetchers settings
`"Path": "/opt/iw/tm5/bin/iw_metainfo_fetcher",`	Path to fetcher
`"Name": "MetainfoFetcher"`	Fetcher name
`}`	
`],`	
`"Indices": [`	Indexes section
`{`	
`"Description": {`	Indexes description
`"Base": {`	Indexes base description. Sphinx options:
`"min_word_len": "3",`	Minimal word length, needed for indexing. Those words will be indexed only, that have the length not shorter than the minimum. Value "1" - index all.
`"index_exact_words": "0",`	The setting prescribes to index the initial token (before applying morphology) additionally to morphology.
`"charset_table": "0..9, _ , a..z, U+430..U+44F, U+451, A..Z->a..z, U+401->U+451, U+410..U+42F->U+430..U+44F",`	The option sets the table of allowed symbols. If several allowed symbols are placed one after another in the text, Sphinx perceives them as one word. If a symbol is missing in the table of symbols, hence, is not considered as allowed, Sphinx perceives it as a divider.
`"morphology": "libstemmer_eng, libstemmer_rus",`	Morphological algorithms using option
`"type": "plain"`	
`},`	
`"Source": {`	Description of data source for index

Code	Description
`"Fields": [`	Data source fields
`"url",`	Hyperlink to contact's social network page
`"login",`	Contact's social network username
`"disp_name"`	Username used in intercepted object. Can be nickname, specified as name and surname in social network account.
`],`	
`"Attributes": {`	Data source attributes
`"contact": "string"`	"Contact" attribute
`},`	
`"Name": "mi2cntct"`	Data source name
`}`	
`},`	
`"AutoupdatePeriodSec": 140,`	Index autoupdate period
`"Hive": "Primary",`	Index storage name
`"IndexingPool": "TODO_indexing_pool",`	Not used, keeping it for the future
`"RotationPeriodSec": 120,`	Indexes update period on the search server
`"Indexer": "Default",`	Name of indexer building the index
`"Active": true,`	Status: active or not active
`"FetcherPool": "TODO_fetcher_pool",`	Not used, keeping it for the future
`"FetchSize": 0,`	Maximum number of objects to be processed by one fetcher

Code	Description
`"FetchingConcurrency": 1,`	Number of fetchers being started at a time
`"ApplyTimeoutSec": 60,`	Index update timeout (seconds). This ending, the warnings that index has not been loaded will appear.
`"MaxShards": 1,`	Number of segments in index
`"Fetcher": "MetainfoFetcher",`	Data sampling fetcher name
`"Scope": "System",`	Index scope name for **iw_is**
`"Mill": "Default",`	Data for indexing storage name
`"ServedBy": "Default",`	Search server name
`"State": "Active",`	Not used
`"UpdateStrategy": "Rebuild",`	Index update strategy. Values: rebuild, delta (finish building)
`"Name": "minfo_contact"`	Index name
`},`	
`{`	
`"Description": {`	Indexes description
`"Base": {`	Indexes base (Settings from Sphinx)
`"min_word_len": "3",`	Minimal word length, needed for indexing. Those words will be indexed only, that have the length not shorter than the minimum. Value "1" - index all.
`"index_exact_words": "0",`	The setting prescribes to index the initial token (before applying morphology) additionally to morphology.
`"charset_table": "0..9, _ , a..z, U+430..U+44F, U+451, A..Z->a..z, U+401->U+451, U+410..U+42F->U+430..U+44F",`	The option sets the table of allowed symbols. If several allowed symbols are placed one after another in the text, Sphinx perceives them as one word. If a symbol is missing in the table of symbols,

Code	Description
	hence, is not considered as allowed, Sphinx perceives it as a divider.
`"morphology": "libstemmer_eng, libstemmer_rus",`	Morphological algorithms using option
`"type": "plain"`	
`},`	
`"Source": {`	Description of data source for index
`"Fields": [`	Data source fields
`"url",`	"url" field
`"login",`	"login" field
`"disp_name"`	"disp_name" field
`],`	
`"Attributes": {`	Data source attributes
`"event": "bigint",`	"Event" attribute
`"tbs": "bigint"`	"Table space" attribute
`},`	
`"Name": "mi2evnt"`	Data source name
`}`	
`},`	
`"AutoupdatePeriodSec": 70,`	Index autoupdate period
`"Hive": "Primary",`	Index storage name
`"IndexingPool": "TODO_indexing_pool",`	Not used, keeping it for the future

Code	Description
`"RotationPeriodSec": 60,`	Indexes update period on the search server
`"Indexer": "Default",`	Name of indexer building the index
`"Active": true,`	Status: active or not active
`"FetcherPool": "TODO_fetcher_pool",`	Not used, keeping it for the future
`"FetchSize": 1000,`	Maximum number of objects to be processed by one fetcher Note: Values set as `"FetchSize": 10000` with `"FetchingConcurrency":9` will let index 1100 and more events per second
`"FetchingConcurrency": 9,`	Number of fetchers being started at a time
`"ApplyTimeoutSec": 60,`	Index update timeout (seconds). This ending, the warnings that index has not been loaded will appear.
`"MaxShards": 10,`	Number of segments in index
`"Fetcher": "MetainfoFetcher",`	Data sampling fetcher name
`"Scope": "tbs",`	Index scope name for **iw_is**
`"Mill": "Default",`	Data for indexing storage name
`"ServedBy": "Default",`	Search server name
`"State": "Active",`	Not used
`"UpdateStrategy": "Delta",`	Index update strategy. Values: rebuild, delta (finish building)
`"Name": "minfo_event"`	Index name
`}`	
`],`	

Code	Description
`"UnsafeSignalHandlers": false,`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"NookDir": "/opt/iw/tm5",`	Module working directory is specified in the section. By default `/opt/iw/tm5` .
`"Indexing": {`	**iw_is** configuration
`"TempDir": "tmp",`	Not used
`"KeepData": false`	Keep indexed data (yes/no)
`},`	
`"Vaults": [`	Indexes archives storages
`{`	
`"Name": "Default",`	Archive name
`"Path": "/opt/iw/tm5/sphinx_archive"`	Path to archive
`}`	
`],`	
`"Hives": [`	Indexes storages
`{`	
`"Path": "/var/lib/sphinx/indices",`	Path to storage
`"Name": "Primary"`	Storage name
`}`	

Code	Description
`    ],`	
`    "Pools": [`	Pool of processes, executed inside **iw_is**
`        {`	
`            "Name": "Searching"`	Pool of processes name
`            "MaxProcsRunning": 1,`	Maximum number of processes being executed at a time
`        },`	
`        {`	
`            "Name": "Indexing"`	Pool of processes name
`            "MaxProcsRunning": 3,`	Maximum number of processes being executed at a time
`        },`	
`        {`	
`            "Name": "Fetching"`	Pool of processes name
`            "MaxProcsRunning": 3,`	Maximum number of processes being executed at a time
`        }`	
`    ],`	
`    "Logging": {...},`	см. *General section Logging*
`    "Mills": [`	Data for indexing storage
`        {`	
`            "Path": "/opt/iw/tm5/tmp/indexing",`	Path to storage
`            "Name": "Default"`	Storage name

Code	Description
`        }`	
`    ],`	
`    "Indexers": [`	Indexers used in **iw_is** (array)
`        {`	
`            "Name": "Default",`	Indexer name
`            "Path": "/opt/iw/tm5/bin/indexer",`	Path to indexer
`            "Settings": {`	Options in Sphinx
`                "mem_limit": "2047M",`	RAM use restriction while indexing (M - MB, K - KB)
`                "max_xmlpipe2_field": "1024M",`	Maximum field size for source type XMLpipe2
`                "on_file_field_error": "ignore_field"`	Input-output errors processing option in file fields: • `ignore_field` - index current document without a field; • `skip_document` - skip current document, but continue indexation; • `fail_index` - indexing failed, error message displayed
`            }`	
`        }`	
`    ]`	
`}`	

The **iw_is.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Indexing Service`	Daemon name
`After=network-online.service iwtm-consul.service postgresql-9.6.service oracle.service iw_indexer.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_is`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_is -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon

Code	Description
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited.
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`EnvironmentFile=-/etc/default/iwtm`	Path to environment file
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.20 kicker.conf and kicker.service

Content	Description
`{`	
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling

Content	Description
	this parameter is not recommended without consultation with developers.
`"Logging": {`	Logging configuration.
`"Backends": {`	Backends list.
`"DefaultDirectory": "/var/log/infowatch/",`	Log files directory.
`"Descriptions": {`	Format description for every logging type and specific settings.
`"File": {`	Output into separate file (file creation directory is specified within `DefaultDirectory` parameter).
`"FileName": [`	Filename, where the log is to be written.
`"web-console-error.log",`	
`"web-console-agent.log",`	
`"web-console-blackboard.log",`	
`"web-console-notifier.log",`	
`"web-console-report.log",`	
`"web-console-selection.log"`	
`]`	

Content	Description
}	
}	
}	
}	
}	

iw_kicker.service unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Web GUI`	Daemon name
`After=network-online.service iwtm-consul.service gearmand.service redis.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_kicker`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_kicker -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld.

Code	Description
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field.
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field.
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled

Code	Description
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.21 license.conf

Content	Description
{	
"ThriftClients": {...},	See *General section ThriftClients*
"Service": {	Section for license service settings
"Name": "licserv",	Service name to register in **Consul**
"WaitIntervalInSec": 5,	After this time interval (in seconds), repeated attempt to register in **Consul** will be made, in case it was unavailable or not operating
"AttemptsCount": 200	Number of attempts to find the license server when starting the license client
}	
}	

1.22 licensed.conf and iw_licensed.service

licensed.conf confiruration file

Content	Description
{	
"DebugBreak": false,	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.

Content	Description
`"LicenseServer": {`	Section for license server setting.
`"Path": "etc/licenses"`	Path from product root to licenses folder.
`},`	
`"Logging": {...},`	See *General section Logging*
`"NookDir": "/opt/iw/tm5",`	In this section the module working directory is specified. By default – `/opt/iw/tm5`.
`"Discovery": {...}`	See *General section Discovery*
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"ThriftServers": {...}`	See *General section ThriftServers*
`}`	

iw_licensed.service unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor License Server`	Daemon name
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one

Code	Description
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_licensed`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_licensed -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld.
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field.
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field.
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files

Code	Description
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.23 lua.conf

Content	Description
`{`	
`"ThriftClients": {...},`	See *General section ThriftClients*
`"Luaengine": {`	Luaengine configuration block
`"ThriftSocketSettings": {`	Section of thrift settings
`"SendTimeout": 30000,`	Setting of socket parameter to send data (ms)
`"RecvTimeout": 90000,`	Time to wait for response from luaengined (ms). Value "0" means that time is unlimited
`"ConnTimeout": 5000`	Time to connect to luaengined (ms). Value "0" means that time is unlimited
`},`	

Content	Description
`"NumRetries": 3`	Number of attempts to send an object into luaengined, if the object processing is interrupted by server connection error
`}`	
`}`	

1.24 luaengined.conf and iw_luaengined.service

luaengined.conf configuration file

Content	Description
`{`	
`"Bookworm": {...}`	See *General section Bookworm*
`"ContextUnwinder": {`	Context processing rules. They are mostly grouped by service, object type, and protocol
`"ContextRules": "etc/rules.xml",`	Preset context processing rules
`"ContextCustomRules": "etc/custom_rules.xml"`	Custom rules of context processing
`},`	
`"DebugBreak": false,`	Whether to send `SIGTRAP(SIGBREAK` in Windows) while any exception handling. Used for debugging purposes
`"Discovery": {...},`	See *General section Discovery*
`"Ident": {`	Description of settings for data provider (LDAP, DNS)
`"CacheTTL": 60`	Data validity time `iw_ident`
`},`	

Content	Description
`"Logging": {...},`	See *General section Logging*
`"Lua": {`	
`"Headers": "etc/config/lua/vademecums/headers.list",`	Used headers guide
`"Vademecums": {`	Identification guides
`"Perimeters": "etc/config/lua/vademecums/perimeters.bin",`	Perimeter identification guide
`"GroupMembersCount": "etc/config/lua/vademecums/group_members_count.bin",`	Group membership guide
`"WorkstationContacts": "etc/config/lua/vademecums/workstation_contacts.bin",`	Workstations guide
`"PersonContacts": "etc/config/lua/vademecums/person_contacts.bin",`	Person's contacts guide
`"PerimeterWorkContacts": "etc/config/lua/vademecums/perimeter_work_contacts.bin",`	Guide to identify perimeters by person's working contacts and groups
`"Applications": "etc/config/lua/vademecums/applications.bin",`	Applications guide
`"Groups": "etc/config/lua/vademecums/groups.bin",`	Groups guide
`"Webform": "etc/config-perm/lua/vademecums/webform.bin",`	Web forms guide (used for marking contents of POST requests)
`"IdentityStatus": "etc/config/lua/vademecums/identity_status.bin",`	Status of identification element (for example, "Under control", "On trial period", and so on)
`"MetaInfo": "etc/config/lua/vademecums/metainfo.bin",`	Meta information guide
`"GroupContacts": "etc/config/lua/vademecums/group_contacts.bin",`	Groups contacts guide

Content	Description
`"Resources": "etc/config/lua/vademecums/resources.bin"`	List of web resources by categories
`},`	
`"MaxThreads": 8,`	Maximum number of processing threads
`"UserScript": "etc/scripts/process.lua",`	User lua script. To be performed after the system one
`"SystemScript": "etc/scripts/system.lua",`	System lua script
`"SessionTimeoutInSec": 60,`	Session lifecycle, in case it was not contacted within the specified period (in seconds). In case the value is " `0` ", the session will not be deleted. Default value is `60`.
`"DumpConf": {`	Section for configuring luaengined dumps filtering. For details, see the article *Filtering of luaengined dumps*
`"DumpDir": "",`	Directory to store dumps. In case it is not empty, the dumps will be recorded to the folder `/opt/iw/tm5/<parameter's value>`
`"DumpFilters": {`	Dump filters which can be configured. In case this section is present, but `ProtocolCode`, `ActionCode`, `License`, `ServiceCode`, `ObjectTypeCode` filters are empty, the filter will not be considered. Filters inside the section are combined by `AND` condition. Values inside filters are combined by `OR` condition
`"ActionCode": [],`	`Action.key` attribute value which is taken from `/opt/iw/tm5/etc/compendiums/actions.xml`, if `action.mnemo` attribute is equal to " `action` " field in `object.json`

Content	Description
`"Headers": {},`	Pairs of values from "`headers`" section from `object.json`. They are used without any upgrades inside and is a directory of a type "key-value".
`"Identities": {`	
`"IdentityName": [],`	
`"IdentityType": [],`	
`"IdentityValue": []`	
`},`	
`"License": [],`	This parameter's value is a combination of `object.json` fields and `common_name` parameter
`"ObjectTypeCode": [],`	The value of `object_type.key` attribute from `/opt/iw/tm5/etc/compendiums/services.xml`, for the objects whose `object_type.mnemo` attribute is equal to `"object_type_mnemo"` field value from `object.json`
`"ProtocolCode": [],`	`Protocol.key` attribute's value which is taken from `/opt/iw/tm5/etc/compendiums/protocols.xml`, if `protocol.mnemo` attribute is equal to `"protocol_mnemo"` field in `object.json`
`"ServiceCode": [],`	`Service.key` attribute's value from `/opt/iw/tm5/etc/compendiums/services.xml` of the service for which the object is detected, set by `"object_type_mnemo"` field in `object.json`.
`"UserHeaders": {}`	

Content	Description
`}`	
`},`	
`"SystemLua": {`	
`"DeleteDDEventsWithoutPolicy": false,`	Mode of a special anti-garbage filter for Data Discovery events. You can select: • `true`, to save to TM database only those events that have triggered policies, • `false` (selected by default), to save events that contain protected objects or have triggered policies. Other Data Discovery events will be deleted by the filter. We recommend enabling this setting in order to save space for storing events.
`"DisableDeleteDDEventsForServers": [],`	A list of Data Discovery server names, to which a special anti-garbage filter for Data Discovery events will not apply. For servers from the list, the filter will not delete any events. Example of a completed list: `["server1", "server2", "server3"]`
`"LyncAuthToPhone": [],`	List of TM nodes where the contact type `auth` should be replaced with `phone`. Replacement is performed only in case the contact consists of figures.
`"LyncAuthToEmail": [],`	List of TM nodes where the contact type `auth` should be replaced with `email`. Replacement is performed only in case the "`@`" symbol is detected within the contact.

Content	Description
`"PhoneFixSendersIds": [],`	List of TM nodes on which the System should disable substituting telephone numbers with normalized values in `sender` header of "`im/message`" type objects in events received via `iw_xapi`.
`"PhoneNoFixSenders": [],`	List of TM nodes where the telephone number should not be replaced with a normalized one in `sender` header for "`im/message`" objects in events from `iw_xapi`. This option can be required to detect problems inside the telephone numbers "normalizing" function.
`"PhoneMinSuffixLen": 7,`	General for all TM nodes size of telephone number suffix, the number with no operator's/city code. The option supports contact searching functions for directories with no codes, which can be required to support AD contact download.
`"RcptRemove": {`	Receivers removal mode, used for e-mails received via SMTP. This function can be used to resolve different deployment scheme problems.
`"Enabled": false,`	Enabling receivers removal mode. In case `Enabled` is set to `true` value, all e-mails receivers will be deleted in case the e-mails priority is higher than `1`.
`"Text": ""`	If `"Enabled": true`, and configuration for `Text` property contains a non-empty string, the receivers whose addresses contain the specified text will be deleted. A single quote' cannot be used in the text.
`},`	

Content	Description
`"ResolveDNS": true,`	Enable/disable resolving DNS names. The default value is `true` (enabled)
`"SmtpHistEml": [],`	List of TM nodes where EML archive should be supported via substitution of formal interception date with real date of e-mail sending Example of list filled in: `["tm-server1", "tm-server2", "tm-server3"]`
`"SmtpReceived": [],`	List of TM nodes on which to extract receiver address from EML " `Received` " header and to add it to receiver list. This function can be required in case TM receives copy of email traffic, where receivers are substituted with " `undisclosed-recipient` ".
`"SmtpPostfix": [],`	List of TM nodes where receiver's IP address should be replaced in header " `source_ip` " with the real address specified in EML " `Received` " header
`"SmtpLotusBcc": [],`	List of TM nodes where SMTP traffic is processed from Lotus server, where it is required to extract BCC copies receivers from service header within EML specific for Lotus server
`"SmtpTmBccList" : [],`	List of TM business addresses the traffic copy is sent to. These addresses will be removed from " `rcpt_to` " header. Example: `["iwtm-mon@local"]`
`"TransportModes": {`	Lists of transport modes for `"Smtp"` and `"Icap"` events. The lists are applied by default on specified TM nodes. The transport modes are used for events intercepted on TM node in case the interceptor hasn't defined the transport mode automatically or

Content	Description
	transport mode hasn't been defined in `iwssid.lua` file. Transport modes. Examples: `[{"Server": "tm-server1", "Mode": "Copy"}, {"Server":"tm-server2", "Mode": "Normal"}]` In `Server` property there is a TM node name, but `Mode` property contains transport mode. The specified mode is applied in case the receptor cannot detect if it is a traffic copy. It is available to reorganize the transport mode within `iwssid.lua` script in case one TM node is required to process traffic copy and operate in Inline mode.
`"Icap": [],`	List of transport modes for Icap
`"Smtp": []`	List of transport modes for Smtp
`}`	
`}`	
`},`	
`"ThriftServers": {...},`	See *General section ThriftServers*
`"NookDir": "/opt/iw/tm5",`	Section specifies the working catalogue of the module. By default – `/opt/iw/tm5`.
`"UnsafeSignalHandlers":false`	Support of work with unprocessed signals. Disabled by default (`false`) . Setting `true` enables you to install processing of unsafe signals (e.g. SIGSEVG) in code. We do not recommend to add, enable/disable this setting without preliminary consultancy to developers.
`}`	

iw_luaengined.service unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor LUA engine daemon`	Daemon name
`After=network-online.service iwtm-consul.service iw_bookworm.service iw_licensed.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under `root`
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_luaengined`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_luaengined -p /opt/iw/tm5/etc`	The full path and arguments of the command that should be executed to start the daemon. The command is run under user specified in the `User` field
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration, if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`).

Code	Description
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the System waits for the signal to stop the daemon before marking it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump size (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)
`[Install]`	Defines the behavior of a daemon if it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the System is loaded in multi-user mode

1.25 messed.conf and iw_messed.service

messed.conf configuration file

Content	Description
{	

Content	Description
`"Messed": {`	
`"HeloDomain": "smtp.company.com",`	HELLO value of the SMTP dialogue. Default value is `smtp.company.com`
`"WorkerThreads": 8,`	Maximum number of threads to perform the **iw_messed** process in parallel. The default value is `8`. Increasing the number of threads will improve the process performance, but memory usage will also grow
`"BookwormCacheDuration": 15,`	**iw_bookworm** cash validity time (seconds)
`"ExchangeJournalAddRecipients": false,`	The parameter is added starting from version 7.10.1. Enabling BCC-emails support to corporate address, in case all correspondence is transferred through external mail servers and Traffic Monitor receives only blind copies of separate emails Is used only if MS Exchange logging mode is enabled (`"ExchangeJournalReports": false,`) and incoming mail is controlled. The parameter is disabled by default (`false`)
`"ExchangeJournalReports": false,`	Processing attachments of MS Exchange emails when MS Exchange operates in journaling mode (including from the online version). The option is disabled by default (`false`)
`"NumExtractorThreads": 0,`	• Value 0 – old mode. The number of started extractors is equal to the number of threads and each object will be processed sequentially by one thread (for example, an archive with 100 files) • Value >0 – new mode. In this case, if the object contains attachments (an archive), they will be processed by a maximum of `NumExtractorThreads` threads. And, irrespective of the number of

Content	Description
	working threads, only `NumExtractorThreads` extractors can be run simultaneously.
`"Relay": "127.0.0.1",`	The full domain name of mail relay server to which the email is to be redirected. Used for identification within the mail protocol. Set during installation
`"RelayPort": 2020,`	Port of the mail relay server to which the email is redirected. Set during installation
`"Timeout": 1200,`	Time, when attempts to deliver SMTP mail are taken (seconds). When the specified time expires, the email is sent to the database. The default value is `1200`
`"FormatXmlContext": false`	XML formatting. Used for debugging. The default value is `false`
`},`	
`"AnalysisClient": {`	Client data analysis settings
`"BindataMaxSizeInMb": 1024,`	Maximum size of a file to be processed (MB). The default value is `1024`
`"Cas": {`	**iw_cas** settings
`"SleepIntervalInSec": 5,`	Time between connection attempts
`"ConnectTryCount": 200`	Number of attempts to connect to **iw_cas**
`},`	
`"ConsulKVWatchPort": 9999,`	The port which Consul uses to inform interceptors about kv (key-value) changes and the necessity to update values
`"Pas": {`	**iw_pas** settings

Content	Description
"SleepIntervalInSec": 5,	Time between connection attempts
"ConnectTryCount": 200	Number of attempts to connect to **iw_pas**
}	
},	
"ExtractorCache": {	Extractor cache options
"ExtractorCacheDepth": 0,	Maximum number of objects stored in cache, default value is `0` (cache is disabled).
"ExtractorCacheClearExistingDir": true,	Flag that indicates if the contents of the daemon's cache directory should be deleted once started, if the directory already exists and is not empty. The default value is `true` (delete).
"ExtractorCacheMaxSize": 107374182400,	Maximum cache size on the disk (in bytes). The default value is `107374182400` (100 GB)
"ExtractorCacheFileMaxSize": 10485760,	Maximum file size in cache (in bytes). Default value – `10485760` (10 MB)
"ExtractorCacheShards": 0	Number of threads to store data in the cache. If the value is `0`, all system threads are used. Otherwise, the specified number of threads is used (it is better not to specify a value greater than the number of threads in the system, the default value is `0`).
},	
"Statistics": {...}	See *General section Statistics*
"Logging": {...}	See *General section Logging*

Content	Description
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`
`"ThriftClients": {...},`	See *General section ThriftClients*
`"UnsafeSignalHandlers":false`	Support for working with unhandled signals. Disabled by default (`false`). Once the `true` value is set, you can use "unsafe" signal handlers in the code (such as SIGSEVG). We recommend not to add, enable or disable this parameter without consulting our developers
`"Bookworm": {...},`	See *General section Bookworm*
`"DebugBreak": false,`	Whether SIGTRAP (SIGBREAK in Windows) should be sent while any exception handling. Used for debugging purposes
`}`	

iw_messed.service unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Messed`	Daemon name
`After=network-online.service iwtm-consul.service iw_bookworm.service iw_licensed.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console

Code	Description
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_messed`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_messed -p /opt/iw/tm5/etc`	The full path and arguments of the command that should be executed to start the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration, if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop the daemon before marking the it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes

Code	Description
`LimitCORE=infinity`	Limit of coredump size (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)
`[Install]`	Defines the behavior of a daemon if it is enabled or disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.26 oracle.conf

Content	Description
`{`	
`"NLS_LANG": "AMERICAN_AMERICA.AL32UTF8",`	Encoding, specifying DB localisation.
`"Username": "iwtm_linux",`	Linux-part account username.
`"ORACLE_HOME": "/u01/app/oracle/product/db_1",`	ORACLE_HOME environment variable value.
`"Password": "xxXX1234",`	Linux-part account password.
`"ConnString": "iwtm"`	DB server connection line (server screen name from **tnsnames.ora** file).
`}`	

1.27 pas.conf and iw_pas.service

pas.conf configuration file

Content	Description
{	
"DebugBreak": false,	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
"Logging": {...},	see *General section Logging*
"NookDir": "/opt/iw/tm5",	In this section the module working directory is specified. By default – `/opt/iw/tm5`.
"ProtectedDocuments": {	
"ConfigPath": "etc/config/pas/protected_documents.xml",	Path to configuration file, containg the connections between elements of technology control and protection object.
"EnableSchemaCheck": true,	Xml check enabling on xsd (disabling increases greatly the configuration download speed). Default value – `true`
"SchemaPath": "etc/protected_documents/protected_documents.xsd"	Path to the file with xml configuration scheme.
},	
"UnsafeHandlers":false	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
"ThriftServers": {...}	see *General section ThriftServers*
}	

iw_pas.service unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Postanalysis Server`	Daemon name
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_pas`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_pas -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation

Code	Description
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.28 postgresql.conf

Content	Description
`{`	
`"DB": "postgres",`	DB name
`"Host": "localhost",`	Host to be connected

Content	Description
`"Password": "xxXX1234",`	Linux-part user account password
`"Port": 5433,`	Port to be connected
`"Username": "iwtm_linux"`	Linux-part username
`}`	

1.29 proxy.conf and iw_proxy_http.service, iw_proxy_icq.service, iw_proxy_smtp.service

The **proxy.conf** configuration file:

Content	Description
`{`	
`"Logging": {...},`	See *General section Logging*
`"NookDir": "/opt/iw/tm5",`	The module working directory is specified in this section. By default – `/opt/iw/tm5`
`"NumExtractorThreads": 0,`	• Value `0` – old mode. Thus, the number of extractors started corresponds to the number of threads, and every object is to be processed completely and sequentially by one thread (for example, a 100 files archive) • Value >0 – new mode. In this case, if the object contains attachments (the archive), they will be processed by a maximum of `NumExtractorThreads` threads. At the same time, no matter how many working threads there are, they can only run `NumExtractorThreads` of extractors at the same time
`"Niceness": -8,`	Priority value (`nice`) for protocol handler threads.
`"ThriftClients": {...},`	See *General section ThriftClients*

Content	Description
`"UnsafeSignalHandlers":falseb`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (such as SIGSEVG). We do not recommend adding, enabling, or disabling this parameter without consulting with developers.
`"Bookworm": {...}`	See *General section Bookworm*
`"MemoryLimits": {`	Memory limits restrictions.
`"RejectSessionsLimit" : 4294967296,`	Maximum memory capacity available to use. If the limit is exceeded, the reception of new sessions for processing stops. `0 –` no limits
`"StopAllocationLimit" : 0,`	Maximum memory capacity to be used for sessions processing. `0 –` no limits
`"DropSessionsLimit": 0`	Maximum memory capacity available to use. If exceeded, processing of one or more active sessions stops. `0 –` no limits
`},`	
`"DebugBreak": false,`	Whether to send SIGTRAP (SIGBREAK in Windows) while any exception handling. Used for debugging purposes
`"AnalysisClient": {`	Data analysis client settings
`"BindataMaxSizeInMb": 1024,`	Maximum size of file to be processed (MB). The parameter is optional. If the value is not specified, the default value is 1024 MB
`"Cas": {`	**iw_cas** settings
`"SleepIntervalInSec": 5,`	Timeout between connection attempts
`"ConnectTryCount": 200`	Number of connection attempts to **iw_cas**
`},`	

Content	Description
`"Pas": {`	**iw_pas** settings
`"SleepIntervalInSec": 5,`	Timeout between connection attempts
`"ConnectTryCount": 200`	Number of connection attempts to **iw_pas**
`}`	
`},`	
`"ExtractorCache": {`	Parameters of extractors' cache
`"ExtractorCacheDepth": 0,`	Maximum number of objects stored in cache. Default value is `0` (cache is disabled)
`"ExtractorCacheClearExistingDir": true,`	A flag indicating whether to delete the contents of the daemon cache directory at startup, if it already exists and is not empty. Default value is `true` (delete)
`"ExtractorCacheMaxSize": 107374182400,`	Maximum size of cache on the disk (in bytes). Default value – `107374182400` (100 GB)
`"ExtractorCacheFileMaxSize": 10485760,`	Maximum file size to be stored in cache (in bytes). Default value – `10485760` (10 MB)
`"ExtractorCacheShards": 0`	The number of threads to store data in cache. If the value is `0`, the number of System threads. Otherwise, the specified number of threads (preferable that it is not bigger than the number of System threads; the default value is `0)`
`},`	
`"module": {`	**Iw_proxy** modules list and its parameters
`"smtp": {`	

Content	Description
`"Statistics": {...}`	See *General section Statistics*
`"MaxMsgSize": 52428800,`	Size of an SMTP message (bytes). Messages exceeding this size cannot be processed by the System. The default value is `52428800`
`"iscp": {`	Interceptor location in a network where **iw-sniffer** is running
`"TCPKeepaliveProbing": {`	Section for monitoring connection activity
`"ProbesIntervalSec": 15,`	The interval (in seconds) that divides sending of keep alive packages
`"ProbesCount": 10,`	Number of sent keep alive packages
`"StartProbingInSec": 30,`	Time (in seconds) during which no connection activity is detected and after which the System starts sending keep alive packages
`"Enabled": true`	Whether the option is enabled or disabled
`},`	
`"ListenArea": "smtp",`	Name of the filter defined in **iw_sniffer** configuration which will be used to get data
`"Host": "localhost",`	Address of a server where **iw_sniffer** is running
`"Port": 4301`	Port used by **iw_sniffer** to connect to clients
`},`	
`"DumpMode": 0,`	The number is a bit mask which includes different dump logs depending on its binary representation. The default value is `0`. Possible values: • 1 – saving data • 2 – saving data block sizes

Content	Description
	• 3 – saving data and data block sizes
"ReadBufferSize": 32768,	Data size received from **iw_sniffer** for once (in bytes). Default value – `32768`
"DumpPath": "dump.smtp",	Path to dump file. Default value – `dump.smtp`
"FormatXmlContext": false	XML formatting. Used for debugging. Default value – `false`
},	
"icq": {	
"MessageWindow": 10,	Number of dialogue messages after which the ICQ dialogue is saved to the file queue. Default value – `10`
"DefaultCodepage": "cp1251",	Encoding of incoming ICQ traffic. Default value – `cp1251`
"Statistics": {..},	See *General section Statistics*
"iscp": {	Location of data interceptor in the network where **iw_sniffer** is running:
"TCPKeepaliveProbing": {	Section for monitoring connection activity
"ProbesIntervalSec": 15,	Interval (in seconds) that divides sending of keep alive packages
"ProbesCount": 10,	Number of keep alive packages being sent
"StartProbingInSec": 30,	Time (in seconds) during which there is no connection activity and after which the sending of keep alive packages begins
"Enabled": true	Whether the option is enabled or disabled

Content	Description
`},`	
`"ListenArea": "icq",`	Name of the filter set in the **iw_sniffer** configuration that will be used to get data
`"Host": "localhost",`	Address of a server where **iw_sniffer** is running
`"Port": 4301`	Port used by **iw_sniffer** to connect to clients
`},`	
`"TempDir": "tmp",`	Directory for storing temporary files. Should be located in the same partition with the file queue
`"DialogTimeout": 5,`	Time interval (in minutes, after the last ICQ message has been intercepted) after which the dialogue should be saved to the file queue. Default value – `5`
`"FormatXmlContext": false,`	XML formatting. Used for debugging purposes. Default value – `false`
`"DialogBytesCount": 500`	Size of the ICQ dialogue (in bytes), after which it is saved to the file queue. Default value – `500`
`},`	
`"http": {`	
`"Statistics": {...},`	See *General section Statistics*
`"IcqIgnoreHosts": "",`	Disabling the intercept of specific ICQ sessions
`"DecodeHttpContent": true,`	Enabling of query content unpacking when *Content-Encoding* heading is present and its value is gzip, deflate or compress. Default value – `true`

Content	Description
"IcqDumpPath": "",	Path to ICQ traffic dump file
"iscp": {	Interceptor location in a network where **iw_sniffer** is running:
"TCPKeepaliveProbing": {	Section for monitoring connection activity
"ProbesIntervalSec": 15,	The interval (in seconds) that divides sending of keep alive packages
"ProbesCount": 10,	Number of keep alive packages being sent
"StartProbingInSec": 30,	Time (in seconds) during which there is no connection activity and after which the sending of keep alive packages begins
"Enabled": true	Whether the option is enabled or disabled
},	
"ListenArea": "http",	Name of a filter set in **iw_sniffer** configuration to be used to get data
"Host": "localhost",	Address of a server where **iw_sniffer** is running
"Port": 4301	Port used by **iw_sniffer** to connect clients
},	
"AuthContext": 0,	Disabling queuing HTTP requests without authentication. Possible values: • `0` – queuing queries with no authentication • `1` – queries with *407* respond from proxy server are not queued • `2` – queries with NTLM Type 1 or with no *Proxy-Authorization* are not queued. In this case, `SkipNegotiate` parameter value is not

Content	Description
	important: the System operates as if its value is `On` Default value – `0`
`"DialogTimeout": 5,`	The time interval (in minutes) after which the ICQ dialogue is saved (when intercepting ICQ over HTTP) to the file queue after the last message has been intercepted. Default value – `5`
`"HttpDumpPath": "",`	Path to HTTP traffic dump file
`"MaxMemoryBlock": 4096,`	Maximum data size of POST-request (KB) which could be stored in RAM. Large size blocks will be unloaded to temporary files. Default value – `4096`
`"WCGAuthCache": false,`	Indicates whether the authorization information caching feature required for integration with WebSense WSG is enabled. To enable caching, set the value to `true`. The default value is `false`
`"StatusCheck": false,`	Setting the HTTP request delivery status depending on the status code returned by the web or proxy server. If set to `true`, the code is analyzed, which allows for a more accurate display of the delivery status of the HTTP request. The default value is `false`
`"IcqFilter": true,`	Ability to intercept ICQ messages (if set to `true`) transmitted via a proxy server (over HTTP). Enabled by default
`"TransferTimeout": 300,`	Stop active connection data transfer
`"InactiveConnectionTimeout": 172800,`	Closing the communication session after the specified time since the last data was received. The default is value 172800 seconds
`"SkipNegotiate": false,`	Disabling queuing HTTP requests with NTLM Type 1 (required to exclude duplicate requests). The default value is `false`. When implementing the scheme, while intercepting a copy of HTTP traffic via a Sniffer, it must take the value `false`
`"HighVolumeErrors": {`	Limiter of the number of error messages and warnings of the HTTP protocol parser:

Content	Description
`"switchToNormalThreshold": 300,`	Threshold number of messages displayed during the period specified in `errorsWindow`. Decrease of displayed messages to the specified number causes the limiter to switch to normal mode, where every 5 minutes the number of errors occurred in the last `errorsWindow` seconds is displayed
`"errorsWindow": 300,`	Time during which the excess of the allowed number of displayed messages is monitored. 300 seconds by default
`"switchToFailingThreshold": 1500,`	Maximum number of messages handled in the mode "display every 5 minutes the number of error messages" during the period, specified in `errorsWindow`. Exceeding this number causes switching to "display all messages with no limits" mode until the number of messages during `errorsWindow` seconds is below `switchToNormalThreshold` value
`"mode": "normal"`	Errors counting mode (debug version). `normal` by default • debug – the rest of the parameters are ignored, all error messages are displayed • normal – display the number of errors occurred every 5 minutes as long as the error messages count for the last `errorsWindow` seconds is less than `switchToFailingThreshold` ,., When exceeded, start displaying all error messages until there are less than `sw itchToNormalThreshold`
`},`	
`"OnlyPost": true,`	Intercept only POST requests. Default value – `true`
`"FormatXmlContext": false,`	XML formatting. Used for debugging purposes. Default value – `false`
`"LogAuth": false,`	Logging the binding of user login to their POST requests. Default value – `false`
`"MessageWindow": 10,`	Number of dialogue messages. Reaching it, the ICQ dialogue (when ICQ is intercepted over HTTP) is stored in the file queue. Default value – `10`

Content	Description
`"DefaultCodepage": "cp1251",`	Encoding of incoming ICQ traffic. Default value – `cp1251`
`"IcqKnownServers": "205.188.8.0/24:443, 64.12.30.0/24:443, 205.188.3.0/24:443, 205.188.251.0/24:443, 64.12.104.0/24:443, 64.12.28.0/24:443, 205.188.210.0/24:443, 64.12.73.0/24:443, 64.12.201.0/24:443, 205.188.248.0/24:443",`	IP ranges for ICQ servers while intercepting ICQ over HTTP. Several ranges are separated by commas, for example: " `205.188.251.0/24:443, 64.12.30.0/24:443, 205.188.8.8:443` "
`"WCGAuthTTL": 900,`	Authorized information caching time, if `WCGAuthCache` parameter is enabled (in seconds). Default value – `900`
`"IcqSessionTimeOut": 10800,`	Time of inactivity of the ICQ session in seconds, after which the interception of traffic stops. Default value – `10800`
`"SkipStat4XX": false,`	Disables queuing HTTP requests with a proxy server response of the type "*4XX* ", where *XX* – any numerals. Default value – `false`
`"UnsafeMode": false,`	The mode in which, if an interception error occurs, the process stops and a dump file is created. By default – `false`
`"DialogBytesCount": 500`	Size of the dialogue (in bytes), after which the ICQ dialog (when intercepting ICQ over HTTP) is saved to the file queue. Default value – `500`
`},`	

Content	Description
"void": {	
"Statistics": {.. .},	See *General section Statistics*
"iscp": {	Interceptor location in a network where **iw_sniffer** is running:
"TCPKeepaliveProbing": {	Section for monitoring connection activity
"ProbesIntervalSec": 15,	Interval (in seconds) that divides sending of keep alive packages
"ProbesCount": 10,	Number of keep alive packages being sent
"StartProbingInSec": 30,	Time (in seconds) during which there is no connection activity and after which the sending of keep alive packages begins
"Enabled": true	Whether the option is enabled or disabled
},	
"ListenArea": "void",	Name of the filter set in the **iw_sniffer** configuration that will be used to get the data
"Host": "loca lhost",	Address of a server where **iw_sniffer** is running
"Port": 4301	Port used by **iw_sniffer** to connect clients
},	
"Dump": false	Saving obtained data to the disk. Used for debugging purposes
}	

Content	Description
`},`	
`"ProcessingThreads": 0,`	Number of threads that handle data from **iw_sniffer**. If the value is `0`, the number of used threads will be calculated automatically based on processor capabilities
`}`	

The **iw_proxy_http.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Proxy`	The daemon name
`After=network-online.service iwtm-consul.service iw_bookworm.service iw_licensed.service`	Daemons that will be started before the current daemon
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_proxy -m http`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_proxy -p /opt/iw/tm5/etc -m http`	The full path and arguments of the command that should be run to start the daemon. The command is run under user specified in the `User` field
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field

Code	Description
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration, if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the System waits for the daemon to stop before marking it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump size (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)
`AmbientCapabilities=CAP_SYS_NICE`	A privilege that enables raising the priority for processes and threads
`[Install]`	Defines the behavior of a daemon if it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the System is loaded in multi-user mode

The **iw_proxy_icq.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Proxy`	The daemon name
`After=network-online.service iwtm-consul.service iw_bookworm.service iw_licensed.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_proxy -m icq`	The full path and command arguments that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_proxy -p /opt/iw/tm5/etc -m icq`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` field
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration, if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon

Code	Description
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the System waits for the daemon to stop before marking it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump size (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)
`AmbientCapabilities=CAP_SYS_NICE`	A privilege that enables raising the priority for processes and threads
`[Install]`	Defines the behavior of a daemon if it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the System is loaded in multi-user mode

The **iw_proxy_smtp.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Proxy`	The daemon name

Code	Description
`After=network-online.service iwtm-consul.service iw_bookworm.service iw_licensed.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_proxy -m smtp`	The full path and command arguments that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_proxy -p /opt/iw/tm5/etc -m smtp`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` field
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration, if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the System waits for the daemon to stop before marking it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started

Code	Description
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump size (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)
`AmbientCapabilities=CAP_SYS_NICE`	A privilege that enables raising the priority for processes and threads
`[Install]`	Defines the behavior of a daemon if it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the System is loaded in multi-user mode

1.30 rest2push.conf and iw_rest2push.service

rest2push.conf configuration file

Content	Description
`{`	
`"Consul": {`	Consul service registration parameters
`"Address": "localhost:8500",`	Consul client address and port
`"Balancing": "try_local"`	Balancing methods: • `only_local` – use only the service from the server specified in `Address` parameter; in case the service is unavailable, send an error message • `try_local` – use the service from the server specified in `Address` parameter; in case the service is unavailable, use `roundrobin` method

Content	Description
	• `roundrobin` – use RoundRobin algorithm: send the first request to the first available service, the next request – to the next service, and so on. After all available services have been involved, the cycle starts over. In case one of the services fails, the other services continue request processing
`},`	
`"HttpServer": {`	Parameters for HTTP server startup
`"Address": ":9106"`	HTTP server startup address and port
`"Cert": "certification/web-server.pem"`	Certificate path[1] [2]
`"Key": "certification/web-server.key"`	Key path[1] [2]
`},`	
`"InsecureSkipVerify": false,`	Do not validate TLS certificates (for Thrift)
`"TrustedCertificatesPath": "cert/trusted_certificates",`	Path to certificate for Thrift connection check[2]
`"Logging": {`	Logging parameters
`"Level": "warning",`	Logging level (`debug` , `info` , `warning` , `error` , `fatal`)
`"Backends": {`	Backend list
`"DefaultDirectory": "/var/log/infowatch/",`	Path to default log files directory
`"Descriptions": {`	List of possible backends, in which key is a backend name and value is an object that describes the backend
`"File": {`	Output to the specified text file. File directory is specified in `DefaultDirectory` parameter.

Content	Description
`"FileName": "rest2push.log"`	Logger file name
`}`	
`}`	
`}`	
`}`	
`}`	

Примечание:

[1] If `"HttpServer"` section does not specify certificate path and/or key path, HTTP will start without TLS.

[2] You can specify an absolute path or a path relative to the configuration directory.

iw_rest2push.service unit file

Code	Description
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`[Service]`	Daemon start settings section
`[Unit]`	Section for daemon metadata and interaction settings with other daemons
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one
`AmbientCapabilities=CAP_DAC_READ_SEARCH`	Privilege that removes the check for permission to read files. The whole file system becomes available for reading.
`Description=InfoWatch Rest to PushAPI service`	Daemon name

Code	Description
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	Command that reloads the daemon configuration if it is available. The command is run on behalf of the user specified in `User` field
`ExecStart=/opt/iw/tm5/bin/iw_rest2push -p /opt/iw/tm5/etc --backend $DB_BACKEND`	Full path and command arguments that should be executed before starting the daemon. The command is run on behalf of the user specified in `User` field
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_agent`	Full path and arguments of the command that should be executed before the main process is started
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	Command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run on behalf of the user specified in `User` field
`Group=root`	User group name
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitMEMLOCK=infinity`	Maximum size of memory locked address space (KB)
`LimitNOFILE=32768`	Maximum number of open files
`LimitNPROC=65536`	Maximum number of processes
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` on behalf of `root` user
`Restart=on-failure`	Command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartPreventExitStatus=SIGKILL`	Command that forcibly ends daemon operation
`RestartSec=5`	Timeout before attempting to restart the daemon
`TimeoutStopSec=0`	Time during which the system waits for the signal to stop before marking the process as unavailable or terminated

Code	Description
`Type=simple`	Daemon start type. `simple` – daemon is started and goes into standby on the console
`User=root`	Name of the user on whose behalf the daemon is started
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode
`EnvironmentFile=-/etc/default/iwtm`	Path to the environmant file

1.31 qmover_client.conf and iw_qmover_client.service

qmover_client.conf configuration file

Content	Description
`{`	
`"ChannelWidth": 128,`	Channel width, data downloading speed in Traffic Monitor, kilobits per sec. Can be indirectly limited by `WindowSize` parameter.
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"ListenerIP": "127.0.0.1",`	Host party IP-address is - **qmover_server**
`"TCPKeepaliveProbing": {`	Section for monitoring connection activity
`"ProbesIntervalSec": 15,`	The interval between sending keepalive packets (in seconds)
`"ProbesCount": 10,`	The number of keepalive packets to be sent
`"StartProbingInSec": 30,`	The time during which the connection is inactive (in seconds). After this time, the sending of keepalive packets starts

Content	Description
`"Enabled": true`	Whether the option is enabled
`}`	
`"Logging": {...},`	see *General section Logging*
`"MaxFrameSize": 1400,`	Data block maximum size, sent at a time.
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`.
`"Port": 16888,`	Server port. By default: `16888`
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"WindowSize": 100`	Data blocks maximum number, which can be sent with no confirmation.
`}`	

iw_qmover_client.service unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Queue Mover Client`	Daemon name
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one

Code	Description
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_qmover_client`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_qmover_client -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files

Code	Description
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.32 qmover_server.conf and iw_qmover_server.service

qmover_server.conf configuration file

Content	Description
`{`	
`"Clients": [`	Agents massive
`{`	
`"IP": "127.0.0.1",`	IP-address of the maintained agent.
`"TCPKeepaliveProbing": {`	Section for monitoring connection activity
`"ProbesIntervalSec": 30,`	The interval between sending keepalive packets (in seconds)

Content	Description
`"ProbesCount": 10,`	The number of keepalive packets to be sent
`"StartProbingInSec": 300,`	The time during which the connection is inactive (in seconds). After this time, the sending of keepalive packets starts. If no keep alive packets receive a response, the current connection will be dropped. If the system kernel version supports the **TCP_USER_TIMEOUT** option for the socket, the timeout is set equal to StartProbingInSec + ProbesIntervalSec * ProbesCount. With this option, even in the case of activity (attempts to transfer data to a connection already closed on the other side), the connection will be closed after the time calculated by the formula.
`"Enabled": true`	Whether the option is enabled
`}`	
`}`	
`],`	
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"Logging": {...},`	see *General section Logging*
`"NookDir": "/opt/iw/tm5",`	Module working catalogue is specified in the section. By default – `/opt/iw/tm5`.
`"Port": 16888,`	Server port. By default: `16888`

Content	Description
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`}`	

iw_qmover_server.service unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Queue Mover Server`	Daemon name
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_qmover_server`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_qmover_server -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the

Code	Description
	daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled

Code	Description
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.33 rammer.conf

Содержимое	Описание
{	
"DebugBreak": false,	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
"Logging": {...},	see *General section Logging*
"NookDir": "/opt/iw/tm5",	In this section the module working directory is specified. By default – `/opt/iw/tm5`.
"Rammer": {	
"Mail": {	
"DeleteAfterSending": true,	Delete objects after sending (true) or relocate into queue/final-errors (false).
"Notifications": {	Notifications sending control.
"NotificationTextPath": "config-perm/rammer/notification_mail_pattern.xml",	Notification mail pattern.
"Officer": "officer@tester.com",	Security officer's e-mail to send the notification.
"Sender": "sender@tester.com"	E-mail address where from the initial message containing notification of sending from error queue will be sent

Содержимое	Описание
},	
"Relay": {	Relay server setup.
"RelayHost": "localhost",	Full domain name of mail relay server, where the message is redirected. It is used to be identified within mail protocol. To be set during the installation.
"RelayPort": 2020	Port of mail relay server, where the message is redirected. To be set during the installation.
},	
"SendOnDeliveryAbsence": true,	To send object messages with unknown DeliveryState (true).
"SendOnTransportModeAbsence": true	To send object messages with unknown TransportMode (true).
},	
"TempDir": "tmp",	Path to temporary service files.
"WaitTimeSec": 5	Time slot, defining how often the component checks the file queues for events.
},	
"UnsafeSignalHandlers":false	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/ disabling this parameter is not recommended without consultation with developers.
}	

1.34 sample_compiler.conf and iw_sample_compiler.service

sample_compiler.conf configuration file

Content	Description
{	
`"Statistics": {...},`	See *General section Statistics*
`"Logging": {...},`	See *General section Logging*
`"ThriftClients": {...},`	See *General section ThriftClients*
`"ThriftServers": {...},`	See *General section ThriftServers*
`"Discovery": {...}`	See *General section Discovery*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default, `/opt/iw/tm5`
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (such as SIGSEVG). We do not recommend adding, enabling/disabling this parameter without consultation with developers.
`"Bookworm": {...},`	See *General section Bookworm*
`"EnableOCR": false,`	Enabling the use of an OCR extractor that allows you to save scanned reference documents as references with text content. Default value – `false` **Note:** you need to enable OCR in **warpd.conf** configuration file (`warp` section, value `EnableOCR:true`)

Content	Description
`"ErrorHandlers": {`	Errors processing strategy description for each technology
`"autoling": "NoErrorsAllowedHandler",`	Currently not in use
`"exclusion": "NoErrorsAllowedHandler",`	Currently not in use
`"form": "AtLeastOneSuccessHandlerWithCleanup",`	Reference blanks. Default value – `AtLeastOneSuccessHandlerWithCleanup` The compilation is considered to be successful if any reference document was successfully compiled. Reference document is considered to be compiled if any content that is part of this document was successfully compiled. When choosing this strategy, information about errors in individual contents is purged from the result and the client receives only information about successfully compiled contents
`"image_learn": "NoErrorsAllowedHandler",`	Currently not in use
`"normal": "AtLeastOneSuccessHandlerNoCleanup",`	Reference documents. Default value – `AtLeastOneSuccessHandlerNoCleanup` (similar to `AtLeastOneSuccessHandlerWithCleanup`, but the content compilations error information is to be provided in conjunction with the result)
`"stamp": "NoErrorsAllowedHandler",`	Reference stamps. Default value – `NoErrorsAllowedHandler` (any compilation error of any content results in an error of the whole compilation)
`"table": "NoErrorsAllowedHandler"`	Reference unloadings from DB. Default value – `NoErrorsAllowedHandler` (any compilation error of any

Content	Description
	content results in an error of the whole compilation)
},	
"UnsafeSignalHandlers": false,	Whether to send processing details after changes have been made. Used for debugging purposes
"ExtractorCache": {	Extractors' cache parameters
"ExtractorCacheDepth": 0,	Maximum number of objects stored in cache. Default value – `0` (cache is disabled)
"ExtractorCacheClearExistingDir": true,	Flag specifying if the daemon cache directory content should be deleted once started, if it exists and is not empty. The default value is `true` (delete).
"ExtractorCacheMaxSize": 107374182400,	Maximum size of cache on the drive (in bytes). The default value is `107374182400` (100 GB)
"ExtractorCacheFileMaxSize": 10485760,	Maximum file size to be stored in cache (in bytes). The default value is `10485760` (10 MB)
"ExtractorCacheShards": 0	Number of threads to store data in cache. If `0`, the number of System threads is considered. Otherwise, the number of threads specified (it is preferred that it isn't bigger than the number of the system's threads). The default value is `0.`
},	
"DebugBreak": false,	Whether SIGTRAP should be sent (SIGBREAK in Windows) while any exception handling. Used for debugging purposes

Content	Description
`"OutChunkSizeLimit": 1048576,`	Maximum size of a chunk where the compilation results are returned. Default value – `1048576`
`"ThreadsCount": 5,`	Number of handling threads
`"Technologies": {`	Section for configuring separate technologies
`"AutolingMinTermCount": 5,`	Minimum number of terms found in the text to be analyzed
`"FingerprintMinBinFileSize": 256,`	Minimum size of binary reference document (bytes)
`"FormDelimitersPath": "etc/config-perm/cas/form_delimiters.json",`	Path to delimiters file. Used for reference form technology
`"FormStopWordsPath": "etc/config-perm/cas/form_stopwords.txt",`	Path to stop words glossary (ignored words) used to analyze forms (documents containing fields to be filled in)
`"FormMinRows": 2,`	Minimum number of fields in a reference blank
`"FingerprintMaxBinFileSize": 31457280,`	Maximum size of a binary reference document
`"FingerprintMinTextFileSize": 256,`	Minimum size of a text reference document (bytes)
`"ImageMatcherConfig": "etc/config-perm/cas/image-matcher.yml",`	Path to configuration of image analysis technology
`"TableStopWordsPath": "etc/config-perm/cas/table_stopwords.txt",`	Path to stop words glossary for analyzing DB unloadings
`"FingerprintMaxTextFileSize": 31457280,`	Maximum size of text sample document (in characters)

Content	Description
`"TableMinRows": 2,`	Minimum number of rows in a reference table for DB unloadings
`"TempDir": "tmp/analysis",`	Directory to store temporary files. Default value – `tmp/analysis`
`"VectorObjectMinSize": 800`	Minimum number of primitives to be extracted from vector image for it to be considered the reference one. If less than the number specified is extracted, the error of this type occurs: "File does not fit the standard"
`},`	
`}`	

iw_sample_compiler.service unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Configuration Sample Compiler`	Daemon name
`After=network-online.service iwtm-consul.service iw_bookworm.service licensed.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` under **root**

Code	Description
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_sample_compiler`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_sample_compiler -p /opt/iw/tm5/etc --backend $DB_BACKEND`	The full path and arguments of the command that should be executed before starting the daemon. The command is run under user specified in the `User` field
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration, if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop the daemon before forcibly marking it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump size (KB)

Code	Description
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)
`[Install]`	Defines the behavior of a daemon if it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.35 smtpd.conf and iw_smtpd.service

The **smtpd.conf** configuration file:

Content	Description
`{`	
`"Logging": {...},`	see *General section Logging*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`.
`"UnsafeSignalHandlers":false,`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"SMTPD": {`	**Iw_smtpd** daemon settings section.

Content	Description
`"Domain": "smtp.company.com",`	Full domain name of hosting SMTP-server, used for identity inside mail protocol. It is recommended to use TM server name, where **iw_smtpd** process is running.
`"EnablePrivSock": false,`	Using privileged socket mechanism (privsock) to receive capability marks (used on OS Astra Linux version 1.6 and later ones) . Default value - false.
`"MaxThreads": 8,`	Maximum number of streams to perform **iw_smtpd** parallel process. The default value is `8` . Strems number growing will increase process performance, but memory usage will also grow.
`"MaxMsgSize": 104857600,`	E-mail maximum size (bytes). Default value is - `104857600`
`"ListenPort": 2025,`	Server port, where the listening process is running. It is set during the installation.
`"ListenAddr": "0.0.0.0"`	Server network interface address, where the listening process is running. It is set during the installation.
`}`	
`}`	

The **iw_smtpd.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor SMTP`	The daemon name

Code	Description
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_smtpd`	The full path and arguments of the command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_smtpd -p /opt/iw/tm5/etc`	The full path and arguments of the command that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started

Code	Description
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`AmbientCapabilities=PARSEC_CAP_PRIV_ SOCK`	A privilege for creating a privileged socket and changing its mandatory label. A privileged socket enables network operation ignoring the mandatory policy
`AmbientCapabilities=CAP_NET_BIND_SERV ICE`	A privilege that enables binding a socket to privileged ports (port numbers lower than 1024).
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.36 sniffer.conf and iw_sniffer.service

The **sniffer.conf** configuration file:

Content	Description
`{`	
`"Use": {`	

Content	Description
"SessionDump": false	If the intercepted packs, distributed by sessions are to be saved. Used for debugging purposes. SessionDump configuration part 1.
},	
"Statistics": {...},	see *General section Statistics*
"Logging": {...},	see *General section Logging*
"iscp": {	
"TCPKeepaliveProbing": {	Monitoring of connection activity section
"ProbesIntervalSec": 30,	The interval (seconds) that divides sending of keep alive packages
"ProbesCount": 10,	Number of keep alive packages being sent
"StartProbingInSec": 300,	The time (seconds) during which no connection activity is detected and after it passes, the system starts sending keep alive packages
"Enabled": true	Option is enabled or disabled
},	
"ListenHost": "0.0.0.0",	Network interface to get iscp connected. By default `0.0.0.0` - for any interface to get.
"ListenPort": 4301	Server port, where listening process is running. Default value - `4101`
},	
"NookDir": "/opt/iw/tm5",	In this section the module working directory is specified. By default – `/opt/iw/tm5`.

Content	Description
`"Niceness": -15,`	Priority value (nice) for streams handling iscp-protocol.
`"UsedAreas": [`	Active filters from the list in the below section ListenAreas. Alternative, where every agent is to be connected to any ListenArea, is performed by title (set within sniffer client configuration - capstack or proxy). Inactive filters are assumed ("pcap").
`"capstack",`	
`"http",`	
`"icq",`	
`"smtp"`	
`],`	
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"SessionDump": {`	SessionDump configuration part 2.
`"BaseDirectory": "snif-sessions"`	Intercepted sessions storage location (if SessionDump = true).
`},`	
`"DumpFileDir": "dump-all",`	NOT USED
`"ListenAreas": {`	Every ListenArea - is a filter to select handling packs. The source of packs is a network interface (through tmcap core module) or pcap-file. ListenArea names are used by agents while connecting to sniffer.

Content	Description
"capstack": {	
"MaxClient": 16,	The number of clients to be connected to one ListenArea at one time.
"Rules": [	Chain of applied in sequence rules to choose the packs, captured for ListenArea given. The first rule is applied for every pack, where it suits.
{	
"LoPort": 110,	Range of ports, where thy given rule is applied to. Port affiliation to the range is verified this way: LoPort <= portnum <= HiPort.
"IP": "0.0.0.0",	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.
"HiPort": 110,	Range of ports, where the given rule is applied to. Port affiliation to the range is verified this way: LoPort <= portnum <= HiPort.
"Policy": "ACCEPT",	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling • DROP - stop checking the rest of rules, stop handling the pack
"Mask": "0.0.0.0"	Subnet mask
},	
{	
"LoPort": 143,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.

Content	Description
"IP": "0.0.0.0",	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.
"HiPort": 143,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"Policy": "ACCEPT",	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling • DROP - stop checking the rest of rules, stop handling the pack
"Mask": "0.0.0.0"	Subnet mask
},	
{	
"LoPort": 993,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"IP": "0.0.0.0",	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.
"HiPort": 993,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"Policy": "ACCEPT",	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling

Content	Description
	• DROP - stop checking the rest of rules, stop handling the pack
"Mask" : "0.0.0.0"	Subnet mask
},	
{	
"LoPort": 1352,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"IP": "0.0.0.0",	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.
"HiPort": 1352,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"Policy": "ACCEPT",	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling • DROP - stop checking the rest of rules, stop handling the pack
"Mask" : "0.0.0.0"	Subnet mask
}	
],	
"Balancer": "IpPref",	Selecting balanced type of workload for Traffic Monitor servers, to avoid data processing delay and data packs loss.

Content	Description
	• By default InPref - traffic distribution between few server instances is performed basing on the source_ip intercepted session (all client's traffic is processed by only one server), the maximum number of agents, where the traffic is to be distributed is set by MaxClient parameter. • In Easy mode there are no limits on intercepted sessions distribution between servers, and the server with the lowest load is taken (not by CPU, but the amount of traffic from sniffer).
"Timeouts": {	Timeouts to handle TCP connections, intercepted for the given ListenArea.
"OpenInSec": 120,	Time to get approval for session opening (response SYN, ACK).
"TailInSec": 15,	After the connection is closed, confirmations and replays may occur. Packs with the same parameters that the closed session has, coming after the closure within the period specified will belong to the closed one.
"CloseInSec": 120,	Time to get approval for session closure (response FIN).
"LiveInSec": 3600	Maximum time break between new packs arrival for open sessions.
},	
"QueueMemorySizeInBytes": 67108864,	Data memory capacity, ready to upload and collected within the given ListenArea. This memory is to be distributed between connected agents.
"Interface": ""	Network interface name, where the core module will collect traffic for the given ListenArea. The value is provided manually in each case.
},	
"pcap": {	

Content	Description
`"Timeouts": {`	Timeouts to handle TCP-connections intercepted for the given ListenArea.
`"OpenInSec": 120,`	Time to get approval for session opening (response SYN, ACK).
`"TailInSec": 15,`	Packs expectation time (sec) to be delivered after the connection closure. In this case, confirmations and replays may occur. Packs with parameters, similar to closed session parameters and coming after the closure within the period specified will belong to the closed one.
`"CloseInSec": 120,`	Time to get approval for session closure (response FIN).
`"LiveInSec": 3600`	Maximum time break between new packs arrival for open session.
`},`	
`"PcapFile": "input.pcap",`	Path to dump traffic file (PcapFile or Interface can be specified at a time).
`"MaxClient": 16,`	Number of agents to be connected at a time to one ListenArea.
`"Balancer": "IpPref"`	Selecting balanced type of workload for Traffic Monitor servers, to avoid data processing delay and data packs loss. By default - InPref (traffic distribution between few server instances). • By default InPref - traffic distribution between few server instances is performed basing on source_ip intercepted session (all client's traffic is processed by only one server), maximum number of agents, where the traffic is to be distributed is set by MaxClient parameter. • In Easy mode there are no limits on intercepted sessions distribution between servers, and the server with the lowest load is taken (not by CPU, but the amount of traffic from sniffer).

Content	Description
`},`	
`"icq": {`	
`"MaxClient": 16,`	Number of agents to be connected at a time to one ListenArea.
`"Rules": [`	Chain of packs selection rules, consistently applied, captured for the given ListenArea. Every pack is under the first rule capable for it.
`{`	
`"LoPort": 443,`	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
`"IP": "0.0.0.0",`	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.
`"HiPort": 443,`	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
`"Policy": "ACCEPT",`	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling • DROP - stop checking the rest of rules, stop handling the pack
`"Mask": "0.0.0.0"`	Subnet mask
`},`	
`{`	

Content	Description
"LoPort": 5190,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"IP": "0.0.0.0",	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.
"HiPort": 5190,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"Policy": "ACCEPT",	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling • DROP - stop checking the rest of rules, stop handling the pack
"Mask": "0.0.0.0"	Subnet mask
}	
],	
"Balancer": "IpPref",	Selecting balanced type of workload for Traffic Monitor servers, to avoid data processing delay and data packs loss. • By default InPref - traffic distribution between few server instances is performed basing on source_ip intercepted session (all client's traffic is processed by only one server), maximum number of agents, where the traffic is to be distributed is set by MaxClient parameter. • In Easy mode, there are no limits on intercepted sessions distribution between servers, and the server with the lowest load is taken (not by CPU, but the amount of traffic from sniffer).
"Timeouts": {	Timeouts to handle TCP connections intercepted for the given ListenArea.

Content	Description
"OpenInSec": 120,	Time to get approval for session opening (response SYN, ACK).
"TailInSec": 15,	After the connection is closed, confirmations and replays may occur. Packs with the same parameters that the closed session has, coming after the closure within the period specified will belong to the closed one.
"CloseInSec": 120,	Time to get approval for session closure (response FIN).
"LiveInSec": 86400	Maximum time break between new packs arrival for open session.
},	
"QueueMemorySizeInBytes": 67108864,	Data memory capacity, ready to upload and collected within the given ListenArea. This memory is to be distributed between connected agents.
"Interface": "eth1"	Interface name, where the core module will collect traffic for the given ListenArea.
},	
"smtp": {	
"MaxClient": 16,	Number of agents to be connected at a time to one ListenArea.
"Rules": [	Chain of packs selection rules, consistently applied, captured for the given ListenArea. Every pack is under the first rule capable for it.
{	
"LoPort": 25,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.

Content	Description
"IP": "0.0.0.0",	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.
"HiPort": 25,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"Policy": "ACCEPT",	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling • DROP - stop checking the rest of rules, stop handling the pack
"Mask": "0.0.0.0"	Subnet connection
}	
],	
"Balancer": "IpPref",	Selecting balanced type of workload for Traffic Monitor servers, to avoid data processing delay and data packs loss. • By default InPref - traffic distribution between few server instances is performed basing on source_ip intercepted session (all client's traffic is processed by only one server), maximum number of agents, where the traffic is to be distributed is set by MaxClient parameter. • In Easy mode there are no limits on intercepted sessions distribution between servers, and the server with the lowest load is taken (not by CPU, but the amount of traffic from sniffer).
"Timeouts": {	Timeouts to handle TCP connections, intercepted for the given ListenArea.
"OpenInSec": 120,	Time to get approval for session opening (response SYN, ACK).

Content	Description
"TailInSec": 15,	After the connection is closed, confirmations and replays may occur. Packs with the same parameters that the closed session has, coming after the closure within the period specified will belong to the closed one.
"CloseInSec": 120,	Time to get approval for session closure (response FIN).
"LiveInSec": 3600	Maximum time break between new packs arrival for open session.
},	
"QueueMemorySizeInBytes": 67108864,	Data memory capacity, ready to upload and collected within the given ListenArea. This memory is to be distributed between connected agents.
"Interface": "eth1"	Interface name, where the core module will collect traffic for the given ListenArea.
},	
"http": {	
"MaxClient": 16,	Number of agents to be connected at a time to one ListenArea.
"Rules": [	Chain of packs selection rules, consistently applied, captured for the given ListenArea. Every pack is under the first rule capable for it.
{	
"LoPort": 80,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"IP": "0.0.0.0",	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.

Content	Description
"HiPort": 80,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"Policy": "ACCEPT",	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling • DROP - stop checking the rest of rules, stop handling the pack
"Mask": "0.0.0.0"	Subnet mask
},	
{	
"LoPort": 443,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"IP": "0.0.0.0",	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.
"HiPort": 443,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"Policy": "ACCEPT",	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling • DROP - stop checking the rest of rules, stop handling the pack

Content	Description
"Mask" : "0.0.0.0"	Subnet mask
},	
{	
"LoPort": 3128,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"IP": "0.0.0.0",	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.
"HiPort": 3128,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"Policy": "ACCEPT",	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling • DROP - stop checking the rest of rules, stop handling the pack
"Mask" : "0.0.0.0"	Subnet mask
},	
{	
"LoPort": 8080,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"IP": "0.0.0.0",	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.

Content	Description
"HiPort": 8080,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"Policy": "ACCEPT",	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling • DROP - stop checking the rest of rules, stop handling the pack
"Mask": "0.0.0.0"	Subnet mask
},	
{	
"LoPort": 8888,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"IP": "0.0.0.0",	Sender or receiver address. If IP and Mask are not equal to zero, the following condition should be met: IP & Mask == IP, where & - bit-by-bit multiplication.
"HiPort": 8888,	Range of ports, where the given rule is applied. To check where the port belongs to: LoPort <= portnum <= HiPort.
"Policy": "ACCEPT",	The rules are applied in sequence and when one of them is affected the rest are not applied, so if one pack is suitable for 2 rules, where one is DROP and the other is ACCEPT - the first from the list to be applied. From operation only ACCEPT and DROP are supported: • ACCEPT - stop checking the rest of rules, pass the pack for handling • DROP - stop checking the rest of rules, stop handling the pack

Content	Description
"Mask" : "0.0.0.0"	Subnet mask
}	
],	
"Balancer": "IpPref",	Selecting balanced type of workload for Traffic Monitor servers, to avoid data processing delay and data packs loss. • By default InPref - traffic distribution between few server instances is performed basing on source_ip intercepted session (all client's traffic is processed by only one server), maximum number of agents, where the traffic is to be distributed is set by MaxClient parameter. • In Easy mode there are no limits on intercepted sessions distribution between servers, and the server with the lowest load is taken (not by CPU, but the amount of traffic from sniffer).
"Timeouts": {	Timeouts to handle TCP connections intercepted for the given ListenArea.
"OpenInSec": 120,	Time to get approval for session opening (response SYN, ACK).
"TailInSec": 15,	After the connection is closed, confirmations and replays may occur. Packs with the same parameters that the closed session has, coming after the closure within the period specified will belong to the closed one.
"CloseInSec": 120,	Time to get approval for session closure (response FIN).
"LiveInSec": 3600	Maximum time break between new packs arrival for open session.
},	

Content	Description
`"QueueMemorySizeInBytes": 67108864,`	Data memory capacity, ready to upload and collected within the given ListenArea. This memory is to be distributed between connected agents.
`"Interface": "eth1"`	Interface name, where the core module will collect traffic for the given ListenArea.
`}`	
`}`	
`}`	

The **iw_sniffer.service** unit file:

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Sniffer`	The daemon name
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/usr/sbin/modprobe tmcap`	The full path and command arguments that should be executed before the main process is started. Here: - loading and unloading **tmcap** kernel module when **iw_sniffer** is started or stopped
`ExecStartPre=/usr/sbin/setcap cap_net_admin+ep /opt/iw/tm5/bin/sniffer`	The full path and command arguments that should be executed before the main process is started

Code	Description
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_sniffer`	The full path and command arguments that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_sniffer -p /opt/iw/tm5/etc --backend $DB_BACKEND`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` field
`#ExecStart=/usr/sbin/ip link set ens192promisc on`	A comment. Is used for debug purposes
`#ExecStart=/bin/bash -e "ip link set ens192promisc on"`	A comment. Is used for debug purposes
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=584000`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited

Code	Description
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
Nice=-17	A priority that a user sets for the process. The lower the number, the higher the priority of execution is and the less often the task manager will interrupt the process. The range is from -20 (the highest) to +19 (the lowest).
`AmbientCapabilites=CAP_NET_ADMIN`	A privilege that allows the daemon to perform network-related operations: configure a network interface, firewall, change routing tables, etc.
`[Install]`	Defines the behavior of a daemon when it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.37 space_manager.conf and iw_space_manager.service

The **space_manager.conf** configuration file

Content	Description
`{`	
`"Logging": {...},`	See *General section Logging*
`"Consul": {`	Parameters of registration in the Consul service
`"Adress": "127.0.0.1:8500",`	Consul address and port
`"UserName": "consul_client"`	User name
`},`	

Content	Description
`"Database": {`	Section for the database connection configuration
`"ConnString": "oci:host=localhost;port=1521;dbname=iwtm",`	Database connection parameters: address, port, user name
`"Driver": "oci",`	Database type: pgsql – PostgreSQL, oci – Oracle
`"UserName": "iwtm",`	Database user account name
`"Password": "xxXX1234"`	Database password
`},`	
`"Debug": false,`	If `true`, gets the service debug logs.
`"WebConf": false`	Not used
`}`	

The **iw_space_manager.service** unit file

Code	Description
`[Unit]`	Section for definition of daemon metadata and configuration of its interaction with other daemons
`Description=InfoWatch Traffic Monitor Table Space Manager`	Daemon name
`After=network-online.service iwtm-consul.service postgresql-9.6.service oracle.service`	Daemons that are run before the current daemon
`[Service]`	Section for configuration of daemon launch

Code	Description
`Type=simple`	Daemon start type. `simple` – the daemon starts and switches to the waiting mode in the console
`PermissionsStartOnly=true`	Start of ExecStartPre commands as the **root** user
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_space_manager`	Full path and parameteres of the commands that should be run before the start of the main process
`ExecStart=/opt/iw/tm5/bin/iw_spaca_manager -p /opt/iw/tm5/etc --backend $DB_BACKEND`	Full path and parameteres of the command that should be run to start the daemon. Run under the user defined in `User`
`ExecStop=/bin/kill -s SIGTERM $MAINPID`	Command to stop the daemon. If not specified, the process is immediately killed when the daemon stops. Run under the user defined in `User`
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	Command to restart the daemon configuration if possible. Run under the user defined in `User`
`Restart=on-failure`	Command to restart the daemon if it stops or fails. The `on-failure` value means that the daemon is restarted if it stops with non-zero return code and is killed with a command (`kill <daemon_pid>`)
`» RestartSec=5`	Waiting time before the daemon tries to start
`TimeoutStopSec=0`	Time during which the system waits for the daemon to stop before marking it as unavailable or force-stopped
`User=iwtm`	The name of a user under which the daemon starts
`Group=iwtm`	User group name
`LimitNOFILE=32768`	Maximal number of open files

Code	Description
`LimitFSIZE=infinity`	Maximal file size (KB). `infinity` stands for unlimited size
`LimitNPROC=65536`	Maximal number of processors
`LimitCORE=infinity`	Limit of the coredump file size (KB)
`LimitMEMLOCK=infinity`	Maximal address space blocked in the memory (KB)
`EnvironmentFile=-/etc/default/iwtm`	Path to the surrounding file
`[Install]`	Definition of daemon operation if it is enabled or disabled
`WantedBy=multi-user.target`	Run this daemon when the system is loaded in the multi-user mode

1.38 system_check.conf and iw_system_check.service

The **system_check.conf** configuration file

Content	Description
`{`	
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"Discovery": {...}`	See *General section Discovery*
`"Logging": {...},`	See *General section Logging*
`"Nagios": {`	Nagios service settings section
`"ConfigureFilePath": "/etc/nagios/nagios.cfg",`	Path to configuration file

Content	Description
`"ContactsFilePath": "/etc/nagios/iwmon/iwmon-contacts.cfg",`	Path to configuration file containing description of contacts to be notified
`"ResourcesFilePath": "/etc/nagios/private/resource-notify-iw.cfg",`	Path to configuration file containing notification e-mails settings
`"StatusFilePath": "/var/log/nagios/status.dat"`	Path to file containing check results
`},`	
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default - `/opt/iw/tm5`.
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"ThriftServers": {...}`	See *General section ThriftServers*
`}`	

The **iw_system_check.service** unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor System Check`	The daemon name
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one

Code	Description
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_system_check`	The full path and command arguments that should be executed before the main process is started.
`ExecStart=/opt/iw/tm5/bin/iw_system_check -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld.
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group

Code	Description
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited.
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.39 tech_tools.conf and iw_tech_tools.service

The **tech_tools.conf** coniguration file

Content	Description
`{`	
`"Config": {`	**Iw_tech_tools** configuration section
`"ConfigPath": "etc/config/tech_tools"`	Path to tech_tools technological configuration
`},`	
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.

Content	Description
`"Discovery": {...}`	See *General section Discovery*
`"Logging": {...},`	See *General section Logging*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default, `/opt/iw/tm5`.
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"ThriftServers": {...}`	See *General section ThriftServers*
`}`	

The **iw_tech_tools.service** unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Tech Utilities`	The daemon name
`After=network-online.service iwtm-consul.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**

Code	Description
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_tech_tools`	The full path and command arguments that should be executed before the main process is started.
`ExecStart=/opt/iw/tm5/bin/iw_tech_tools -p /opt/iw/tm5/etc`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field.
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field.
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` val ue means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)

Code	Description
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`[Install]`	Defines the behavior of a daemon when it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.40 text_autoling.conf and iw_text_autoling.service

Content	Description
`{`	
`"Logging": {...},`	See *General section Logging*
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`
`"Bookworm": {...},`	See *General section Bookworm*
`"DebugBreak": false,`	Whether SIGTRAP should be sent (SIGBREAK in Windows) while any exception handling. Used for debugging purposes
`"UnsafeSignalHandlers":false,`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use "unsafe" handlers in code (such as SIGSEVG). We do not recommend adding, enabling/disabling this parameter without consultation with developers
`"Analysis": {`	

Content	Description
`"Autoling": {`	Section to configure Autolinguist learning
`"AutolingConfigPath": "etc/config-perm/cas/autoling.conf",`	Path to the Autolinguist technology configuration file
`"MinTermLength": 3,`	Minimum length of terms found in text
`"MinTextWordCount": 10,`	Minimum number of words in text to be analyzed
`"MinUniqueTermCount": 5,`	Minimum number of unique terms found in text to be analyzed
`"RelevanceThreshold": 0.1`	Minimum probability threshold to define category as non-working
`},`	
`"Config": {`	
`"EnableContentSchemaCheck": true,`	Enabling (`true` value) the **cas_config.xml** file content validation
`"EnableSchemaCheck": true,`	Enabling XML check on XSD (disabling significantly increases the configuration load speed). The default value is `true`
`"SchemaPath": "etc/cas_config.xsd",`	Path to XSD file used to check XML configuration. The default value is `etc/cas_config.xsd`
`"Path": "etc/config/text_autoling",`	Path to CAS configuration file. The default value is `etc/config/cas`
`"TempDir": "tmp",`	Path to temporary service files
`"VariativeDataDir": "var/tech/text_autoling"`	

Content	Description
},	
"Curler": {	Curl backend configuration section
"Active": {	
"AlertSocketPath": "wss://localhost/api/notify/listen/autolingUpdate",	WebSocket address used to get a signal to change the Active configuration
"UpdaterHostName": "https://localhost/xapi/configurationState/autoling"	Configuration update address
},	
"AlertTimeoutSec": 5,	Timeout after which control is returned to the calling thread, unless a configuration change has occurred earlier
"CurlOptSslVerifyHost": false,	HTTP server connection settings for downloading configuration updates **Note:** service fields, not intended to be edited by a user
"CurlOptSslVerifyPeer": false,	
"CurlOptTcpKeepAlive": true,	
"Sandbox": {	
"AlertSocketPath": "wss://localhost/api/notify/listen/autolingUpdateSb",	Address of the WebSocket used to receive the Sandbox configuration change signal
"UpdaterHostName": "https://localhost/xapi/configurationState/autoling_sb"	Address for updating configuration from the Sandbox
},	
"TokenPath": "/opt/iw/tm5/etc/config/access_control/tokens.list"	Path to the file with the list of access tokens

Content	Description
},	
"ThriftClients": {...},	See *General section ThriftClients*
"ThriftServers": {...},	See *General section ThriftServers*
"Discovery": {...}	See *General section Discovery*
}	
}	

iw_text_autoling.service unit file

Code	Description
`[Unit]`	Section to define daemon metadata and configure its interaction with other daemons
`Description=InfoWatch Traffic Monitor Text Automatic Classifier`	Daemon name
`After=network-online.target iwtm-consul.service`	Daemons to be run before starting the current daemon
`[Service]`	Section to configure daemon running
`Type=simple`	Daemon running type. `simple` – daemon is started and goes into standby mode in the console
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` using the **root** user
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_text_autoling`	The full path and arguments of a command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_text_autoling -p /opt/iw/tm5/etc`	The full path and arguments of a command that should be executed before starting the daemon. The

Code	Description
	command is run under user specified in the `User` field
`ExecStop=/bin/kill -s SIGTERM $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the daemon to stop before forcibly marking it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump size (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)

Code	Description
`[Install]`	Defines the behavior of a daemon if it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.41 updater.conf and iw_updater.service

The **updater.conf** configuration file

Content	Description
`{`	
`"DbBackend": {`	Configuring the backend DBMS
`"ConnIdleTimeoutSec": 0,`	The parameter sets the timeout for executing database queries. If the DBMS does not respond during the specified timeout, the operation is interrupted. By default, the parameter is zero. In this case, timeouts for queries to DBMS are disabled. **Important!** If the parameter value is not zero, it must be greater than the value of the `AlertTimeout` parameter
`"TaskQueueMaxSize": 100,`	The size of the queue for parallel tasks
`"LoadThreadCount": 5`	The number of streams executing tasks on data unloading from the database
`},`	
`"UseCurlBackend": false,`	Using curl backend instead of DB. It is not used in 6.7. x and earlier versions.
`"Logging": {...},`	See *General section Logging*

Content	Description
`"Discovery": {...},`	See *General section Discovery*
`"RetryAttemptTimeoutSec": 5,`	Delay between repeated attempts to download configuration (sec)
`"NookDir": "/opt/iw/tm5",`	In this section the module working directory is specified. By default – `/opt/iw/tm5`
`"PIDFilesPath": "run",`	Not used
`"NewConfigDirectory": "tmp/config-new",`	Temporary directory to download new Traffic Monitor configuration
`"UnsafeSignalHandlers": false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/ disabling this parameter is not recommended without consultation with developers
`"AlertTimeout": 5,`	Stand-by time (seconds) to notify about DBMS configuration update. On its expiry the expectation is suspended for some time (seconds), specified in RetryAttemptTimeoutSec parameter, than the new expectation is started
`"DebugBreak": false,`	Using SIGTRAP/SIGBREAK in trap handlers in checkout mode. Only in checkout assemblies
`"ScriptPath": "bin/notify.py",`	Path to the script, to be run after configuration download
`"Curl": {`	Curl-backend settings section. It is not used
`"AlarmHostName": "wss://",`	-
`"CurlOptUserAgent": "curl/7.45.0",`	-

Content	Description
"CurlMaxThreads": 10,	-
"CurlOptMaxRedirs": 50,	-
"TokenPath": "/opt/iw/tm5/etc/updater_token.txt",	-
"CurlOptRange": "",	-
"UpdaterHostName": "https://",	-
"CurlOptSslVerifyHost": false,	-
"CurlOptSslVerifyPeer": false,	-
"AlarmSocketPath": "/api/notify/listen/configUpdate",	-
"CurlOptTcpKeepAlive": true	-
},	
"CleanupDirectoryOnError": true,	New configuration directory cleaning when an error occurs
"CurrentConfigDirectory": "etc/config"	Path to Traffic Monitor current configuration
}	

The **iw_updater.service** unit file

Code	**Description**
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified

Code	Description
`Description=InfoWatch Traffic Monitor IConfiguration Updater`	The daemon name
`After=network-online.service iwtm-consul.service postgresql-9.6.service oracle.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_updater`	The full path and command arguments that should be executed before the main process is started.
`ExecStart=/opt/iw/tm5/bin/iw_updater -p /opt/iw/tm5/etc --backend $DB_BACKEND`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` field
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field.
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field.
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon

Code	Description
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited.
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`EnvironmentFile=-/etc/default/iwtm`	Path to environment file
`[Install]`	Defines the behavior of a daemon when it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.42 warpd.conf and iw_warpd.service

The **warpd.conf** configuration file

Content	Description
{	

Content	Description
`"Logging": {...},`	See *General section Logging*
`"NookDir": "/opt/iw/tm5",`	This section specifies the module's working directory. By default – `/opt/iw/tm5`
`"ThriftClients": {...},`	See *General section ThriftClients*
`"UnsafeHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (such as SIGSEVG). We do not recommend adding, enabling/disabling this parameter without consultation with developers
`"Bookworm": {...},`	See *General section Bookworm*
`"DebugBreak": false,`	Whether SIGTRAP should be sent (SIGBREAK in Windows) while any exception handling. Used for debugging purposes
`"warp": {`	
`"EnableOCR": false,`	Whether OCR should be enabled
`"EnableIRM": false`	Whether Oracle Information Rights Management (Oracle IRM) should be enabled
`}`	
`}`	

The **iw_warpd.service** unit file

Code	**Description**
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified

Code	Description
`Description=InfoWatch Traffic Monitor IConfiguration Warpd`	The daemon name
`After=network-online.service iwtm-consul.service  iw bookworm.service iw_licensed.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_warpd`	The full path and arguments of a command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_warpd -p /opt/iw/tm5/etc`	The full path and arguments of a command that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration, if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation

Code	Description
`TimeoutStopSec=0`	The time during which the system waits for the daemon to stop before forcibly marking it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump size (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)
`[Install]`	Defines the behavior of a daemon if it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.43 web.conf

The file contains relationships parameters between the managing Console and other system components.

Content	Description
`{`	
`"hostname": null,`	Host to develop links to TM console. Once null, it is to be calculated automatically.
`"search": {`	Section contains Management Console parameters of interaction with full text search service.

Content	Description
`"hostname": "127.0.0.1",`	Server, where search engine is installed.
`"driver": "sphinx",`	Name of full text search driver. By default - sphinx
`"max_matches_common": 100000,`	Maximum number of expected events found during the full text search processing. In case the result is bigger than it was expected, the parameter **max_matches_maximum** will operate. This influences on average memory load produced by **sphinx** service during the full text search processing. The value should not be less than a **page_size.**
`"max_matches_maximum": 10000000,`	Maximum number of events found during the full text search. This influences on the maximum memory load produced by **sphinx** service during the full text search.
`"page_size": 10000,`	Number of events, sent during a query to full text search (**sphinx** service). This influences on maximum Web-GUI memory load, in particular PHP processes. The value should not be greater than a **max_matches_common.**
`"port": 9306`	Port of mysql-protocol **sphinx** service.
`},`	
`"search_meta": {`	Section contains parameters of interaction between management console and meta information search service.
`"hostname": "127.0.0.1",`	Server, where the searching engine has been installed.
`"driver": "sphinx",`	Full text search driver name. By default - sphinx
`"max_matches_common": 100000,`	Maximum number of expected events found during the full text search processing. In case the result is bigger

Content	Description
	than it was expected, the parameter **max_matches_maximum** will operate. This influences on average memory load produced by **sphinx** service during the full text search processing.
`"max_matches_maximum": 10000000,`	Maximum number of events found during the full text search. This influences on the maximum memory load produced by **sphinx** service during the full text search.
`"page_size": 10000,`	Number of events, sent during a query to full text search (**sphinx** service). This influences on maximum Web-GUI memory load, in particular PHP processes.
`"port": 9310`	**Sphinx** service mysql protocol.
`},`	
`"kickers_count": 10,`	Number of active `default worker` and `trackers worker` for all the kickers by default. Parameter `kickers_count` can be additionally written in any kicker (`kickers` section) and individual value should be obligatory specified.
`"kickers_timeout": 1000,`	Stand-by-time between the tasks if no tasks in the pool (operates only if using un-updated gearmand package iwtm-gearmand, version earlier than 1.1.18-6.11.0.878) (milliseconds).
`"db": {`	Section contains Management Console parameters set in interaction with DB.
`"username": "iwtm_web",`	DB user, having rights to connect to tables and work in, using Web-GUI.
`"password": "xxXX1234",`	DB user password.
`"schema": "iwtm",`	TM DB scheme.

Content	Description
"driver": "oci",	DB connection driver type.
"connstring": "127.0.0.1:1521/iwtm"	DB connection line. For Oracle: "localhost/iwtm:pooled", for PostgreSQL: "pgsql:host=localhost;port=5433;dbname=postgres"
},	
"kickers": {	Services, using Web-GUI are specified in the section.
"selection": {	Responsible for running the queries of **Events** and **Reports** sections.
"enabled": 1	
},	
"blackboard": {	Responsible for adding/deleting status to persons/workstations from policies, adding new contacts to a person after post-identification, adding new applications in search application autohints for buffer and printscreens, adding events to events queue from policies. It should be enabled to analyze Blackboard service.
"enabled": 1	
},	
"systemcheck": {	Responsible for Nagios notifications check and Nagios update counting interactivity in **Management → System condition** paragraph.
"enabled": 1	

Content	Description
},	
"autoling": {	Responsible for interaction with **iw_text_autoling** service (text autolinguist)
"enabled": 0	
},	
"imageclassifier": {	Responsible for interaction with **iw_image_autoling** service (Graphical objects)
"enabled": 1	
},	
"querytracker": {	Responsible for completed queries tracking and provides with implementation percent.
"enabled": 1	
},	
"agent": {	Responsible for interaction with agent service: diagnostics data gathering, services restart, integrity control.
"enabled": 1	
},	
"xapisamplecompiler": {	Responsible for adding and DB automatic unload adding activities.
"enabled": 1	

Content	Description
`},`	
`"export": {`	Responsible for configuration export (content filtration base, protection object).
`"enabled": 1`	
`},`	
`"samplecompiler": {`	Responsible for adding reference documents, forms, stamps and unloads from DB.
`"enabled": 1`	
`},`	
`"report": {`	Responsible for report generation in **Summary** and **Reports** sections and to generate unloads from **Events** section.
`"enabled": 1`	
`},`	
`"import": {`	Responsible for configuration import (content filtration base, protection object).
`"enabled": 1`	
`},`	
`"reporttracker": {`	Responsible for tracking of completed reports and provides with implementation percent.
`"enabled": 1`	

Content	Description
`},`	
`"notifier": {`	Responsible to send notifications from policies notification queues.
`"enabled": 1`	
`}`	
`},`	
`"rotateDebug": true,`	Debug json rotation enabling (true). When disabling (false) rotation all debug-files are to be stored in `/opt/iw/tm5/www/backend/protected/runtime/debug/` folder, and not to get into *https://example.com/api/debug/default/*. It is recommended using shared with `slowRequestTime` with displayed value more than 10-30 seconds.
`"inlineTextDump": false,`	Paste texts to JSON while unloading event debugging data, but do not copy into separate file.
`"debug": "",`	Switching to checkout mode.
`"mail": {`	
`"line_break": 0`	Enabled to replace "\r\n" separation symbol with "\n" in notification messages. it is required when getting the notification from incorrect view policies.
`},`	
`"consul": {`	Consul connection parameters are specified in the section.
`"username": "consul_client",`	Consul username.

Content	Description
"token": "",	Access token.
"hostname": "127.0.0.1",	Server, where consul has been installed.
"port": 8500	Consul port number.
},	
"maxInlineDumpSize": 1048576,	Maximum length of one text selection to be pasted in JSON. If the length exceeds the size specified, the new file's UID=name is to be stored on disk with text selection.
"service_manager": "consul",	Current processes management service.
"slowRequestTime": 0,	Saving dump only for https queries or incorrect http queries that are bigger than the values specified (in seconds).
"version": "7.0.0.0"	Current TM server version.
"xapiGetLimitEntriesFromEvent": null	The limit of event highlights (entries) sent to DB, which is sent through xapi by events request. By default no limit is set. The file contains the service in case of clean installation and it is also added during the update.
}	

1.44 x2db.conf and iw_x2db.service

The **x2db.conf** configuration file

Content	Description
{	
"Logging": {...}	see *General section Logging*

Content	Description
`"FileQueues": {`	Files queues
`"QueueWaitTimeMilliseconds": 100`	Time of waiting data from "queue/x2x" file queue. If the time's passed and the data is absent, the program starts a new waiting cycle, preliminary ensured that the stop wasn't requested.
`},`	
`"NookDir": "/opt/iw/tm5",`	In this section, the module working directory is specified. By default – `/opt/iw/tm5`.
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (e.g. SIGSEVG). Adding, enabling/disabling this parameter is not recommended without consultation with developers.
`"OracleUtf8Processing": {`	Section of special UTF8 processing for Oracle DB.
`"Enabled": true,`	Enable processing (changing the value is unwelcome).
`"Substituter": 95`	ASCII-code of replacing symbol for 4+ bytes UTF8 (changing the value is unwelcome, always more than 32).
`},`	
`"DebugBreak": false,`	If SIGTRAP should be sent (SIGBREAK to Windows) while any exception handling. Used for debugging purposes.
`"Performance": {`	Performance configuration section.
`"Oracle": {`	Settings specific for Oracle backend.
`"ChunkClobBlobSizeInMb": 2047,`	Chunk size (Mb) setup for fragmented content recording.

Content	Description
"MemoryPerLobThreshold": 10485760	LOBs limits before recording to Oracle (in bytes). Once achieved, the record is done in DB. When the value is getting low, the memory footprint is getting low as well. Limitation: not more than 2 GB.
},	
"Postgress": {	PostgreSQL backend specific settings.
"ChunkClobBlobSizeInMb": 100,	Chunk size (MB) setup for fragmented content recording (limitation: 1 GB maximum)
}	
"General": {	Section of performance general settings.
"ConnectionLifeTimeSeconds": 86400,	Time during which the connection is open (in seconds). After the set time, a new connection is automatically created.
"ConnectionExpirationCheckIntervalSeconds": 86400,	Timeout for idle DB connections (in seconds).
"ObjectsMax": {	Objects processing limits.
"MaxFreeCollectors": 10,	Number of collectors, able for "living" without any activity (creating a new collector and issuing memory to it is more expensive than taking one from the pool.
"CollectorsForFillLimit": 10,	Number of objects able for pasting when all DB connections are busy with ready objects.
"ConnectionsMax": 10	Number of simultaneous connections to DB.
}	

Content	Description
`        }`	
`    },`	
`    "DBWorkersCount": 5,`	Number of streams, pasting into DB. There is no use in setting the value more than possible ConnectionsMax. Normal value = (2 or 3) * WorkersCount.
`    "WorkersCount": 5`	Number of streams, taking data from "InQueue" queue, fulfilling the collectors and transferring the fulfilled collectors into DBWorkersCount streams.
`}`	

The **iw_x2db.service** unit file

Code	**Description**
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor Database XML Loader`	The daemon name
`After=network-online.service iwtm-consul.service  postgresql-9.6.service oracle.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` - the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from ExecStartPre under **root**

Code	Description
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_x2db`	The full path and command arguments that should be executed before the main process is started.
`ExecStart=/opt/iw/tm5/bin/iw x2db -p /opt/iw/tm5/etc --backend $DB_BACKEND`	The full path and command arguments that should be executed before starting the daemon. The command is run under user specified in the `User` field.
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field.
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration if it is available. The command is run under user specified in the `User` field.
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the signal to stop before marking the process as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited.

Code	Description
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for core dump size (KB)
`LimitMEMLOCK=infinity`	The maximum size of memory locked address space (KB)
`EnvironmentFile=-/etc/default/iwtm`	Path to the environment file
`[Install]`	Defines the behavior of a daemon when it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.45 x2x.conf and iw_x2x.service

x2x.conf configuration file

Content	Description
`{`	
`"Logging": {...},`	See *General section Logging*
`"BookwormCacheDuration": 15,`	Validity time of reference data (minutes) returned by **iw_bookworm**. Default value – `15`
`"NookDir": "/opt/iw/tm5",`	This section specifies the module working directory. By default – `/opt/iw/tm5`
`"ThrowHighlightError": "false",`	Whether to throw an exception for recalculation errors of displacements for highlighting
`"UseHighlightFix": "true",`	Whether to recalculate displacements for highlighting
`"XMLContext": {`	Group of settings for XML processing

Content	Description
`"ValidatorCheck": true,`	Whether to use a validator for XSD scheme
`"XSDPath": "etc/context.xsd"`	Path to XSD scheme in accordance with the working directory of NookDir module (`/opt/iw/tm5`)
`},`	
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use "unsafe" handlers in code (such as SIGSEVG). We do not recommend adding, enabling/disabling this parameter without consultation with developers
`"Bookworm": {...},`	See *General section Bookworm*
`"DebugBreak": false,`	Whether SIGTRAP should be sent (SIGBREAK in Windows) while any exception handling. Used for debugging purposes
`"DebugSettings": {`	Section for debugging settings
`"PrintOutXml": false`	Whether to display/not to display the XML entry in the console
`},`	
`"Converter": {`	Description of settings to convert the data
`"ConvertOutType": "xml",`	Format type to be presented for entry. Currently, only XML
`"ConverterTimeOut": 1000,`	Waiting time for the conversion task from the file queue. If the time has passed and there is no task, the program will switch to a new waiting cycle (after checking whether a stop has been requested)
`"ConverterThreadsCount": 5`	Number of processing threads

Content	Description
`},`	
`"PurgeTextNodes": true`	Delete the embedded message body from the HTTP header (for custom over-HTTP protocols)
`"Statistic": {`	File queues data
`"Enabled": true`	If statistics can be collected from **iw_x2x** via Prometheus
`},`	
`"ThriftClients": {...},`	See *General section ThriftClients*
`}`	

iw_x2x.service unit file

Code	**Description**
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor XML-to-xml converter`	The daemon name
`After=network-online.service iwtm-consul.service iw_bookworm.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` under **root**

Code	Description
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_x2x`	The full path and arguments of a command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_x2x -p /opt/iw/tm5/etc`	The full path and arguments of a command that should be executed before starting the daemon. The command is run under user specified in the `User` fie ld
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration, if it is available. The command is run under user specified in the `User` field
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the system waits for the daemon to stop before forcibly marking it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump size (KB)

Code	Description
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)
`[Install]`	Defines the behavior of a daemon if it is enabled/ disabled
`WantedBy=multi-user.target`	Start the daemon when the system is loaded in multi-user mode

1.46 xapi.conf and iw_xapi_xapi.service, iw_xapi_puppy.service

xapi.conf configuration filelegas

Content	Description
`{`	
`"Bookworm": {...},`	See *General section Bookworm*
`"DebugBreak": false,`	Whether SIGTRAP should be sent (SIGBREAK in Windows) while any exception handling. Used for debugging purposes
`"DumpDir": "",`	Path to the folder where XAPI dumps are stored. If not empty, the folder */opt/iw/tm5/<parameter's value>* will collect the dumps
`"DumpFilters": {`	Adjustable filters for dumps
`"ActionCode": [],`	The value of `action.key` attribute taken from `/opt/iw/tm5/etc/config/bookworm/actions.xml` , if the attribute `action.mnemo` is equal to the field " `action` " in `object.json`
`"CommonName": [],`	The value of " `common_name` " field from xapi-tool configuration file or parameter

Content	Description
`"Headers": {},`	Pairs of values from "`headers`" section from `object.json`. They are used without any change and are the "key-meaning" vocabulary inside
`"License": [],`	The value of this parameter is a mixture of fileds fields from `object.json` and `common_name` parameter.
`"ObjectTypeCode": [],`	The value of `object_type.key` attribute from `/opt/iw/tm5/etc/config/bookworm/services.xml` for objects in which attribute `object_type.mnemo` is equal to the value of `"object_type_mnemo"` field from `object.json`
`"ProtocolCode": [],`	The value of `protocol.key` attribute taken from `/opt/iw/tm5/etc/config/bookworm/protocols.xml`, if `protocol.mnemo` attribute is equal to the field `"protocol_mnemo"` in `object.json`
`"ServiceCode": [],`	The value of `service.key` attribute from `/opt/iw/tm5/etc/config/bookworm/services.xml` of the service for which the object assigned by the field `"object_type_mnemo"` in `object.json` is determined
`"ServiceMnemo": []`	The value of `service.mnemo` attribute from `/opt/iw/tm5/etc/config/bookworm/services.xml` of the service for which the object assigned by the field `"object_type_mnemo"` in `object.json` is determined
`},`	

Content	Description
`"Logging": {...},`	See General section Logging
`"MaxInmemTextSizeKB": 10240,`	Size of the buffer for data. If exceeded, the data will be transferred to the disk
`"NookDir": "/opt/iw/tm5",`	This section specifies the module working directory. By default – `/opt/iw/tm5`
`"UnsafeSignalHandlers":false`	Unhandled signals support. Disabled by default (`false`). Once `true` is set, it is allowed to use unsafe handlers in code (such as SIGSEVG). We do not recommend adding, enabling/disabling this parameter without consultation with developers
`"TempDir": "tmp",`	Path to folder with temporary **iw_xapi** files
`"FreeSpaceThresholdMountPoint": "/opt/iw/tm5",`	Full path. The System checks the amount of free space in the volume with the directory. If the free space is less than `FreeSpaceThresholdGb` , the System reports that there is not enough space Default value: `/opt/iw/tm5`
`"FreeSpaceThresholdGb": 50,`	Minimum amount of free space in GB. If the free space in the `FreeSpaceThresholdMountPoint` section is lower than the limit, then the **iw_xapi_xapi** process stops to receive events from the Data Discovery interceptor until there is more free space than it is specified Default value: 50
`"ThriftClients": {...},`	See *General section ThriftClients*
`"ThriftServers": {`	Thrift server settings

Content	Description
`"puppy": {`	Thrift server "puppy" section settings
`"AuthenticateClient": false,`	Whether authentication should be requested
`"CertificatePath": "etc/cert/server.pem",`	Certificate path
`"Port": 9101,`	Incoming connections path
`"PrivateKeyPath": "etc/cert/private_key.pem",`	Private key path
`"ServerType": "threaded",`	Server type. By default – `threaded`
`"TransportType": "ssl",`	Data exchange type. Value by default – `socket`
`"TrustedCertificatesPath": "etc/cert/trusted_certificates"`	Path to entrusted certificates storage
`"UseLegacySSL": true`	If the value is `false`, then set the protocol encoding version not earlier than TLS 1.2 for SSL sockets and exclude all algorithms from the groups 3DES and RC4 from the available encoding algorithms. Otherwise, the old versions of TLS will be used. By default: `true` (enabled)
`},`	
`"xapi": {`	Thrift server "xapi" settings section
`"AuthenticateClient": false,`	Whether authentication should be requested
`"CertificatePath": "etc/cert/server.pem",`	Certificate path

Content	Description
`"Port": 9100,`	Incoming connections port
`"PrivateKeyPath": "etc/cert/private_key.pem",`	Private key path
`"ServerType": "threaded",`	Server type. By default – `threaded`
`"TransportType": "ssl",`	Data exchange type. Default value – `socket`
`"TrustedCertificatesPath": "etc/cert/trusted_certificates"`	Path to entrusted certificates storage
`"UseLegacySSL": true`	If the value is `false`, then set the protocol encoding version not earlier than TLS 1.2 for SSL sockets and exclude all algorithms from the groups 3DES and RC4 from the available encoding algorithms. Otherwise, the old versions of TLS will be used. By default: `true` (enabled)
`}`	
`},`	
`"TokensList": "etc/config/access_control/tokens.list",`	Path to the folder with thrift authentication tokens
`"ValidatorScriptPath": "etc/xapi-valid.lua"`	Path to the **iw_xapi** incoming object validator
`}`	

Note:

This configuration file is used to define the filtering conditions when creating the data dumps. To learn more, see *Filtering Xapi Dumps*

iw_xapi_xapi.service unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor XAPI`	The daemon name
`After=network-online.service iwtm-consul.service iw_bookworm.service iw_licensed.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_xapi -m xapi`	The full path and arguments of a command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_xapi -p /opt/iw/tm5/etc -m xapi`	The full path and arguments of a command that should be executed before starting the daemon. The command is run under user specified in the `User` field
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration, if it is available. The command is run under user specified in the `User` field

Code	Description
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by a signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the System waits for the daemon to stop before forcibly marking it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump size (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)
`EnvironmentFile=-/etc/default/iwtm`	Path to environment file
`[Install]`	Defines the behavior of a daemon if it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the System is loaded in multi-user mode

iw_xapi_puppy.service unit file

Code	Description
`[Unit]`	A section where the daemon metadata is determined and interaction settings with other daemons are specified
`Description=InfoWatch Traffic Monitor XAPI`	The daemon name
`After=network-online.service iwtm-consul.service iw_bookworm.service iw_licensed.service`	Daemons that will be started before the current one
`[Service]`	A section where the daemon start settings are specified
`Type=simple`	Daemon start type. `simple` – the daemon is started and goes into standby on the console
`PermissionsStartOnly=true`	Running commands from `ExecStartPre` under **root**
`ExecStartPre=/bin/bash /opt/iw/tm5/bin/check_coredumps.sh -d iw_xapi -m puppy`	The full path and arguments of a command that should be executed before the main process is started
`ExecStart=/opt/iw/tm5/bin/iw_xapi -p /opt/iw/tm5/etc -m puppy`	The full path and arguments of a command that should be executed before starting the daemon. The command is run under user specified in the `User` field
`ExecStop=/bin/kill -s SIGQUIT $MAINPID`	A command to stop the daemon. If the command is not specified, the process will be killed once the daemon is stopped. The command is run under user specified in the `User` field
`ExecReload=/bin/kill -s SIGHUP $MAINPID`	A command that reloads the daemon configuration, if it is available. The command is run under user specified in the `User` field

Code	Description
`Restart=on-failure`	A command that restarts the daemon when it stops or crashes. The `on-failure` value indicates that the daemon will be restarted if it has stopped with a non-zero return code or was ended by signal (`kill <daemon_pid>`)
`RestartSec=5`	A timeout before attempting to restart the daemon
`RestartPreventExitStatus=SIGKILL`	A command that forcibly ends the daemon operation
`TimeoutStopSec=0`	The time during which the System waits for the daemon to stop before forcibly marking it as unavailable or terminated
`User=iwtm`	The name of the user under whose account the daemon is started
`Group=iwtm`	Name of the user group
`LimitNOFILE=32768`	The maximum number of open files
`LimitFSIZE=infinity`	The maximum size of a file (KB). The `infinity` value means that the size is unlimited
`LimitNPROC=65536`	The maximum number of processes
`LimitCORE=infinity`	Limit for coredump size (KB)
`LimitMEMLOCK=infinity`	Maximum address space locked in memory (KB)
`[Install]`	Defines the behavior of a daemon if it is enabled/disabled
`WantedBy=multi-user.target`	Start the daemon when the System is loaded in multi-user mode

1.47 General section Bookworm

The section defines the parameters of working with **iw_bookworm** process.

Content	Description
`"Bookworm": {`	
`"SleepIntervalInSec": 1,`	Interval between attempts to load **iw_bookworm**, sec
`"ConnectTryCount": 200,`	Number of connection attempts
`"ItemTypes": {`	Item types, called by **iw_bookworm**
`"Actions": {`	Actions
`"CacheDuration": 15,`	Duration of validity of reference data, returned by **iw_bookworm** (sec)
`"CacheTimeout": 300`	Time to wait for response from **iw_bookworm** (sec)
`},`	
`"Events": {`	Events
`"CacheDuration": 15,`	Duration of validity of reference data, returned by **iw_bookworm**
`"CacheTimeout": 300`	Time to wait for response from **iw_bookworm**
`},`	
`"ExtractorGroups": {`	Extractor groups
`"CacheDuration": 15,`	Duration of validity of reference data, returned by **iw_bookworm**

Content	Description
"CacheTimeout": 300	Time to wait for response from **iw_bookworm**
},	
"Extractors": {	Extractors
"CacheDuration": 15,	Duration of validity of reference data, returned by **iw_bookworm**
"CacheTimeout": 300	Time to wait for response from **iw_bookworm**
},	
"Formats": {	Formats
"CacheDuration": 15,	Duration of validity of reference data, returned by **iw_bookworm**
"CacheTimeout": 300	Time to wait for response from **iw_bookworm**
},	
"OCROptions": {	OCR options
"CacheDuration": 15,	Duration of validity of reference data, returned by **iw_bookworm**
"CacheTimeout": 300	Time to wait for response from **iw_bookworm**
},	
"Protocols": {	Protocols
"CacheDuration": 15,	Duration of validity of reference data, returned by **iw_bookworm**

Content	Description
"CacheTimeout": 300	Time to wait for response from **iw_bookworm**
},	
"Services": {	Services
"CacheDuration": 15,	Duration of validity of reference data, returned by **iw_bookworm**
"CacheTimeout": 300	Time to wait for response from **iw_bookworm**
},	
"TechsInfo": {	
"CacheDuration": 15,	Duration of validity of reference data, returned by **iw_bookworm**.
"CacheTimeout": 300	Time to wait for response from **iw_bookworm.**
},	
}	

1.48 General section Discovery

Content	Description
"Discovery": {	Section which specifies settings for detecting services
"Registration": {	Section which specifies registration settings in the Consul service
"WaitIntervalInSec": 10	An interval after which the System tries to re-register with the Consul service if the service is unavailable or doesn't work

Content	Description
`},`	
`"TCPCheck": {`	Checks if the service is available
`"IntervalSec": 30,`	An interval at which the service is queried
`"MaxMissedChecksIntervals": 2,`	Standard number of query cycles, after which a non-reaction from Consul will be reacted. The reaction event is called consul timeout and responsed with a service restart.
`"DeregisterCriticalMin": 2,`	A period after which the service is considered not working, if no reaction on requests.
`"PortHigh": 8189,`	The last port in the selection which is used to get the state of the component.
`"PortLow": 8140`	An initial port in the selection which is used to get the state of the component.
`}`	
`},`	

1.49 General section Logging

The basic idea of logging:

1. The program checks the global logging level with regard to the logging level of a message.
2. If the global logging level enables logging the message, the logging level of a specific logger is checked.
3. If the logging level of the logger enables logging the message, the message is sent to the logging system.
4. The logging system checks all active backends whether they are capable of the message output (applies filters).
5. The message is sent to the backends for which the result of filtering was a success. In this case, the message is formatted for every backend according to its formatting rule.

Message filtering during the 1 and 2 stages does not take time. Filtering during the stage 4 takes a way much more time. Therefore, it is recommended to apply filtering only if it is crucial.

Logging configuration:

Content	Description
`"Logging": {`	
`"Loggers": {`	Contains the list of loggers for the various program components, where the key is a logger name, the value is a logging level. Logger separation is performed for fine-tuning messages to be logged: • `Cachets` - logging settings for the cached trees loading/ unloading subsystem • `InfoCollector` - logging settings for the system information gathering subsystem • `Integrity` - logging settings for the data integrity checking/ maintenance subsystem • `Scan` - logging settings for the folder scanning subsystem • `Timings` - logging settings for object processing stages in icap according to the time • `Filequeue` - configuring the level of logging file queue actions. The default value is *debug*. • `Sender` • `Dreamcatcher` • `ProcMan` • `IslerTManager` • `IslerController` • `IslerDocument` • `IslerConnector` • `StatementCollector` • `Connection` • `Collector` • `EventConverter` • `Statistics` • `Iscp` • `Object` • `pop3` • `Script` • `nrpc` • `Om3` • `POP3 Parser` • `imap4` • `Automate` • `ListenArea_capstack`

Content	Description
	• `ListenArea_icq` • `ListenArea_smtp` • `ListenArea_pcap` • `RawMailDump` - mail raw data (for iw_icap, iw_messsed, iw_analysis, iw_xapi). By default: `fatal` • `puppy` • `thrift_handler` - data of thrift-structures received over the network; needed for traffic check (for `iw_xapi`) • `WorkerDB` • `DB` - database logger • `Devour` - building xmlpipe2 files for indexer • `Indexer` - operations with the configuration file of searchd daemon: indexing, indexes and daemon files management • `Root` - root logger, responsible for reading DB records, indexes creating, archiving, indexes deleting • `Stat` - statistical data messages (various operations runtime) Possible logging levels (Severity): • *trace* - detailed logging (including messages with the levels *debug, info* and higher) • *debug* - debugging information output, usually for error diagnostics and communication with developers/tech support • *info* - information messages, could be disabled on the stable system • *warning* • *error* • *fatal* - most important messages leading to system crash and failure. **Example:**

Content	Description
	From two values the strictest is selected, e.g. if `GlobalLevel = warning`, `Stat = info` => effective value for `Stat = warning` (restricted by the global level)
`"Root": "debug"`	Root logger, responsible for reading DB records, indexes creating, archiving, indexes deleting
`},`	
`"Core": {`	Logging kernel general settings
`"DisableLogging": false`	Capability to disable logging in the component. Disabling after the first 3 stages of the message transfer through the logging system, since these stages are performed outside of the logging system and are not controlled by this setting
`},`	
`"Backends": {`	Backends list
`"DefaultDirectory": "/var/log/infowatch/",`	Default directory for logging to a file
`"ActiveBackends": [`	Active backends list. The backends, that are on the list, are considered for logging
`"Console",`	Console output (if the process is not launched as daemon, otherwise logs will be saved to `/dev/null`). The fastest backend.
`"Syslog",`	System log output (`/var/log/messages`). The slowest backend.
`"File"`	Specified text file output (directory for a file to be created is specified in the

Content	Description
	parameter `DefaultDirectory`). Relatively slow backend.
`],`	
`"Descriptions": {`	Possible backend descriptions list, where the key is a backend name, the value is a backend description object. This list only describes backends. To make a backend active, add it to the list ActiveBackends
`"Syslog": {`	System log output description
`"Destination": "Syslog",`	Backend type
`"Asynchronous": false,`	Asynchronous backend or not. The **asynchronous** mode implies the message will be recorded after the message is processed by the logging system (the message will be enqueued and sent to console/syslog/file at some time). This means, if the System hangs up immediately after the message is processed by the logging system, there is a high possibility that the message will never be logged (shortage of time). The pro of the asynchronous mode is faster message processing (the main code of the program spends less time processing messages). It makes sense to set true, when it is necessary to have intensive logging, and the program performance does not raise questions. Otherwise, false should be set.

`"Format": "%LineID% (%ProcessID%: %ThreadID%)`
 	
`[%Severity%] : <%Channel%> %Message%"`
	Message formatting rules. Keywords for formatting and filtering:
	• Severity - logging level
	• LineID - line in a code, where the message was called
	• ProcessID - PID
	• ThreadID - TID
	• Channel - logger name, through which the message was sent
	• Message - message text

Content	Description
	• TimeStamp - message generation time stamp
},	
"Console": {	Console output description
"AutoFlush": true,	Screen output or awaiting in the buffer. The `false` parameter gives the same result as `Asynchronous=true` (see above)
"Destination": "Console",	Backend type
"Asynchronous": false,	Asynchronous backend or not
"Format": "%LineID% %TimeStamp% (%ProcessID%:%ThreadID%) [%Severity%] : <%Channel%> %Message%"	Message formating rules
},	
"File": {	Specified text file output description
"Format": "%LineID% %TimeStamp% (%ProcessID%:%ThreadID%) [%Severity%] : <%Channel%> %Message%",	Message formating rules
"Destination": "TextFile",	Backend type
"FileName": "adlibitum.log",	File name, where log will be written in

Content	Description
"AutoFlush": true,	Screen output or awaiting in the buffer. The `false` parameter gives the same result as `Asynchronous=true.` Setting rules are the same (but invertible).
"Asynchronous": false ,	Asynchronous backend or not
"Append": true	Add message to an old file or create a new file at the program startup.
}	
}	
},	
"SuppressExceptions": false,	Suppress exceptions in the logging mechanism
"GlobalLevel": "warning"	Global logging level. Recommended value when implementing – *error*. This level enables logging messages with the level *error* or higher (*fatal*). Normal operation value and by default - *warning, i*.e. only errors and warnings are written in logs. It is not recommended to use the *trace* value without special purpose.

1.50 General section Statistics

Content	Description
"Statistics": {	Statistics gathering configuration
"DirectoryEnabled": false,	Enable writing statistics files in a directory
"DirectoryPath": "sniffer-stat/",	Path to the directory (if DirectoryEnabled = true), in which statistics will be collected

Content	Description
"FileEnabled": true,	Enable writing statistics in a file
"FilePath": "sniffer.stat"	File name for writing statistics in, in a current directory (if FileEnabled = true). The file will be rewritten.
"LogEnabled": true,	Enable logging statistics, the LOG_INFO level
},	

1.51 General section Statistic

Content	Description
"Statistic": {	Collecting statistics on file queues
"Enabled": false	Whether it is possible to collect statistics on a specific daemon via **Prometheus**. By default, the option is disabled
},	

1.52 General section ThriftServers

In this section, ThriftServer settings are set.

Content	Description
"ThriftServers": {	In this section, ThriftServer settings are set
" ": {	The section for setting the service as a ThriftServer There is a separate section for each service. Specify the name of the service at the beginning of the section
"Port": 0000,	Incoming connection port (default): • for adlibitum - 9096 • for agent - 9099 • for blackboard - 9093 • for bookworm - 9090

Content	Description
	• for cas - 9987 • for image_autoling - 9103 • for text_autoling - 9104 • for licserv - 9095 • for luaengined - 9988 • for pas - 9989 • for sample_compiler - 9091 • for system_check - 9097 • for tech_tools - 9102 • for puppy - 9101 • for xapi - 9100
`"ServerType": "threaded",`	Server type
`"TCPKeepaliveProbing": {`	Connection activity monitoring section
`"Enabled": true,`	Enabling/disabling the option
`"ProbesCount": 10,`	Number of keep alive packages sent
`"ProbesIntervalSec": 30,`	Interval between sending keep alive packages (in seconds)
`"StartProbingInSec": 300`	Time when there is no connection activity and after which the sending of keep alive packages begins (in seconds)
`},`	
`"TransportType": "socket"`	Type of data exchange. Possible values: • `socket` – do not use encryption • `ssl` – use encryption Default value – `socket` **Note**: to use encryption, contact InfoWatch specialists.
`}`	

1.53 General section ThriftClients

Content	Description
`"ThriftClients": {`	Client settings for connecting to the ThriftServer
`" ": {`	Settings section for connecting the service to the ThriftServer There is a separate section for each service. The name of the service is specified at the beginning of the section.
`"TransportType": "socket",`	Type of data exchange. Possible values: • `socket` – do not use encryption • `ssl` – use encryption Default value – `socket` **Note**: to use encryption, contact InfoWatch specialists.
`},`	

2 Other configuration files of Traffic Monitor

2.1 FineReader 12 OR extractor features of control

Using FineReader 12 OCR extractor, able to recognise text and extracted images, the configuration of user account is performed in ini-file.

It includes the following objects of control:

Object type	Object	Description
Document processing	`[SynthesisParamsForDocument]`	page processing parameters
Image processing	`[PrepareImageMode]`	page preprocessing parameters
General parameters	`[DocumentProcessingParams]`	image preprocessing parameters
Page processing	`[PageProcessingParams]`	document processing parameters
Page preprocessing	`[PagePreprocessingParams]`	document synthesis parameters
	`[OrientationDetectionParams]`	page orientation detection parameters
	`[PageAnalysisParams]`	page analysis parameters
	`[TableAnalysisParams]`	table analysis parameters
	`[BarcodeParams]`	barcode processing parameters
	`[ObjectsExtractionParams]`	extra objects detection parameters
	`[RecognizerParams]`	page recognition general parameters
	`[SynthesisParamsForPage]`	page synthesis parameters
	`[FontFormattingDetectionParams]`	font formatting detection parameters
	`[ImageProcessingParams]`	image processing parameters prior image analysis and recognition

Object type	Object	Description
	`[DocumentStructureDetectionParams]`	document structure detection parameters

To enable fast image processing mode, configure ini file parameters. By default the System uses `/opt/iw/tm5/etc/CRProfile_fast.ini` file configured.

To enable fast mode of documents processing specify values of the parameters listed below as follows:

Object	Parameter and Value	Description
[RecognizerParams]	`TextLanguage=English,Russian`	Set the language for text to be recognised
	`FastMode=true`	Recognition is to be performed in fast mode. Processing speed is 2-2,5 times faster than balanced mode can provide, but the number of mistakes is also 1.5-2 times bigger. This parameter is to be used for typewritten and handwritten texts. It is not recommended using this mode to recognise short paragraphs.
	`BalancedMode=false`	Recognition is to be performed in balanced mode. This parameter is available only for typewritten texts, recognition for handwritten texts is to be performed in full mode.
[PagePreprocessingParams]	`CorrectOrientation=true`	When the value is `True`, image orientation is to be defined during preprocessing. When it differes from the normal one, FineReader turns the image upside down.
	`ResolutionCorrectionMode=RCM_Correct`	Defines if image current resolution is to be revised during the preprocessing.
[PrepareImageMode]	`CorrectSkew=true`	When the value is T`rue,` it corrects the rotation during the image preparation. Rotation correction type is set via `CorrectSkewMode` parameter. When the value is `False` `CorrectSkewMode` is to be ignored.
	`AutoOverwriteResolution=true`	Specifies if it is required to overwrite resolution of prepared image. This parameter is available when the value of `OverwriteResolution` is `False`. When the value of `AutoOverwriteResolution` is `True`, then FineReader automatically defines image resolutiona and overwrite it.

Object	Parameter and Value	Description
	`PhotoProcessingMode=PPM_TreatAsNonPhoto`	Verifies if image should be processed like photo. If this photo is being processed, FineReader uses special algorithms of photo processing during different stages of image processing.
	`ImageCompression=IC_NoCompression`	Set the way to compress image during the convertion into external format.
	`UseFastBinarization=false`	When the value is `True,` FineReader uses image fast binarization algorithms. Binarization is performed when image is downloaded (when `DiscardColorImage` is set to `True` during the preparation) or later, when black-and-white image is required. This parameter puts on speed of image binarization, but the quality is getting low.
[FontFormattingDetectionParams]	`DetectFontFamily=false`	Specifies if font type is to be defined during the synthesis.
	`DetectFontSize=false`	Specifies if font size is to be detected during the synthesis.
[SynthesisParamsForPage]	`DetectFontFormattingAtPageLevel=false`	Specifies if font parameters are to be defined during the page synthesis phase. This parameter includes detection of low and upper indexes, italic font, lower case and upper case alphabet and it affords using additional parameters from `[FontFormattingDetectionParams]` section. When the value is `False` this section parameteres are to be ignored.
[SynthesisParamsForDocument]	`DetectFontFormatting=true`	Specifies if font formatting should be performed during the document synthesis.
	`DetectDocumentStructure=false`	Specifies if specific structures are to be performed during the document synthesis.
	`PagePoolSize=64`	Specifies the number of pages to be downloaded at a time during the document synthesis. This parameter can reduce memory pull. It is recommended using the value from 32 to 64. The bigger the number the processing speed is higher. It is not recommended to set big value to process big documents since low memory error

Object	Parameter and Value	Description
		may occur. Numbers less than 5 are to be ignored.
`[PageAnalysisParams]`	`EnableTextExtractionMode=false`	`True` value specifies existing blocks of text on the page. Separate text blocks are to be found during the model analysis. Tables cannot be found. When the value is `True` model analysis cannot be perforemd in `ProhibitModelAnalysis.`
	`DetectPictures=false`	Detects images during the layout analysis.
	`ProhibitModelAnalysis=true`	Specifies if the model analysis should be performed.
	`NoShadowsMode=true`	FineReader will process the image ignoring the shadows.
	`DetectTables=true`	Detects table during the layout analysis.
`[ObjectsExtractionParams]`	`FastObjectsExtraction=true`	When the value is `True` objects extraction is fast, but the quality lowers.
	`RemoveGarbage=false`	Removes garbage from the image (except small dots).
	`RemoveTexture=false`	Removes texture from temporary image, used for recognition. Original image remains untouched.
	`DetectPorousText=false`	Specifies if porous text area should be found during the objects extraction.
	`DetectTextOnPictures=false`	Specifies if the whole text on the image should be recognised, including text within the image. Text sequence remains.
	`EnableAggressiveTextExtraction=false`	Specifies if all possible text from the image should be extracted.
`[DocumentStructureDetectionParams]`	`DetectHeadlines=false`	Specifies if headlines should be detected during document synthesis.

Object	Parameter and Value	Description
	`DetectFootnotes=false`	Specifies if footnotes should be detected during document synthesis.
	`DetectTableOfContents=false`	Specifies if table of contents should be detected during document synthesis.
	`DetectRunningTitles=false`	Specifies if running titles should be detected during document synthesis.
	`DetectLists=false`	Specifies if lists should be detected during document synthesis.
[OrientationDetectionParams]	`OrientationDetectionMode=ODM_Fast`	Pages orientation detection mode.

2.1.1 [BarcodeParams]

Barcode processing parameters:

Name	Type	Description	By default
`Type`	`Integer`	The value of this parameter is `OR`, constant superposition `BarcodeTypeEnum`, meaning different types of barcodes. For example, at `BT_EAN13 | BT_EAN8` FineReader will process the barcodes only in accordance with `EAN13` и `EAN8` standards. `BT_Autodetect` value maintains all types of barcodes.	`BT_Autodetect`
`Orientation`	`Integer`	The value of this parameter is `OR`, constant superposition `BarcodeOrientationEnum`, meaning barcode orientation type. By default, FineReader automatically defines barcode orientation.	`BO_Autodetect`
`MinRatioToTextHeight`	`Double`	This parameter defines minimum possible barcode's hight according to letter's middle hight. It is recommended using this parameter when small barcodes are required to be found. It is possible to set only positive value of this parameter less or equal to `2147483647`. Or `-1`, when FineReader automatically selects the hight.	`-1`

2.1.2 [DocumentProcessingParams]

Document processing parameters:

Name	Type	Description	By default
`PerformSynthesis`	`Boolean`	Performs document synthesis. At `False` value, object `[SynthesisParamsForDocument]` can not be preformed.	`True`

2.1.3 [DocumentStructureDetectionParams]

The parameters that specify document structure:

Name	Type	Description	Default value
`DetectHeadlines`	`Boolean`	Specifies if headlines should be detected during document synthesis.	`True`
`DetectFootnotes`	`Boolean`	Specifies if footnotes should be detected during document synthesis.	`True`
`DetectTableOfContents`	`Boolean`	Specifies if table of contents should be detected during document synthesis.	`True`
`DetectRunningTitles`	`Boolean`	Specifies if running titles should be detected during document synthesis.	`True`
`DetectLists`	`Boolean`	Specifies if lists should be detected during document synthesis.	`True`

2.1.4 [FontFormattingDetectionParams]

Font formatting detection parameters:

Name	Type	Description	By default
`DetectBold`	`Boolean`	When the value is `True` bold font to be defined during the synthesis.	`True`
`DetectFontFamily`	`Boolean`	When the value is `True` font type to be defined during the synthesis.	`True`
`DetectFontSerifs`	`Boolean`	When the value is `True` font serifs to be defined during the synthesis. Font with serifs is to be selected to present the recognised text. When the value is	`True`

Name	Type	Description	By default
		`False`, font serifs are to be ignored. This means that the most suitable font (from the fonts with serifs and without serifs) is selected to present the recognised text independent from the fact if the text is secure or not.	
`DetectFontSize`	`Boolean`	When the value is `True` font size to be detected during the synthesis.	`True`
`DetectItalic`	`Boolean`	When the value is `True` italic font to be detected during the synthesis.	`True`
`DetectScaling`	`Boolean`	When the value is `True` scale to be detected during the synthesis.	`True`
`DetectSmallCaps`	`Boolean`	When the value is `True` letters within the lower case to be detected during the synthesis.	`True`
`DetectSpacing`	`Boolean`	When the value is `True` spaces to be detected during the synthesis.	`True`
`DetectSubscriptsSuperscripts`	`Boolean`	When the value is `True` upper and lower symbols to be detected during the synthesis.	`True`
`DetectUnderlineStrikeout`	`Boolean`	When the value is `True` underlining and striking out to be detected during the synthesis.	`True`
`MonospaceDetectionMode`	`MonospaceDetectionModeEnum`	Performs monospace font detection.	`MDM_Auto`

2.1.5 [ImageProcessingParams]

Image processing parameters before analysis and recognition:

Name	Type	Description	By default
`InvertImage`	`Boolean`	Specifies if image colours within the block are to be inverted. When the value is `True` FineReader inverts the unit image before recognition.	`False`
`MirrorImage`	`Boolean`	Specifies if image within the block is to be mirrored on a vertical axis. When the	`False`

Name	Type	Description	By default
		value is `True` FineReader will mirror the block before recognition.	
`RotationType`	`RotationTypeEnum`	Set text orientation within the block in accordance with normal reading position. This parameter cannot be initialized `RT_UnknownRotation`.	`RT_NoR`

2.1.6 [ObjectsExtractionParams]

Additional objects detection parameters:

Name	Type	Description	By default
`FastObjectExtraction`	`Boolean`	When the value is `True` objects extraction is fast, but with the loss of quality.	`False`
`ProhibitColorImage`	`Boolean`	When the value is `True` FineReader uses black-and-white processing mode during the objects extraction. Therefore the colourful image quality is lower.	`False`
`RemoveGarbage`	`Boolean`	Removes garbage from the image (except small dots).	`False`
`RemoveTexture`	`Boolean`	Removes texture from temporary image, used for recognition. Original image remains untouched.	`True`
`DetectMatrixPrinter`	`Boolean`	Text, printed on a printer matrix to be recognised during the objects extraction.	`True`
`DetectPorousText`	`Boolean`	When the value is `True` porous text area to be found during the objects extraction.	`True`
`DetectTextOnPictures`	`Boolean`	When the value is `True` whole text on the image to be recognised, including text within the image. Text sequence remains.	`False`
`EnableAggressiveTextExtraction`	`Boolean`	When the value is `True` FineReader will extract all possible text from the image. It is recommended to use this parameter for images with low quality texts. This processing mode may cause the fault image description via text or vertical orientation of horizontal text.	`False`

Name	Type	Description	By default
`ProhibitDottedSeparators`	`Boolean`	When the value is `True` FineReader concludes that processed document doesn't contain dot separation symbols. It is recommended to use this parameter when the document doesn't contain this kind of separation symbols or when inforwation can be recognised wrong, if it was a dot separation symbol. **Important:** this parameter is temporary.	`False`

2.1.7 [OrientationDetectionParams]

Pages orientation detection parameters:

Name	Type	Description	By default
`OrientationDetectionMode`	`OrientationDetectionModeEnum`	Pages orientation detection mode.	`ODM_Normal`
`ProhibitClockwiseRotation`	`Boolean`	Disables image clockwise rotation when its orientation is selected. **Important:** this parameter shouldn't be set to `True`, if `ProhibitCounter-clockwiseRotation` and `ProhibitUpsidedownRotation` parameters are set to `True`.	`False`
`ProhibitCounterclockwiseRotation`	`Boolean`	Disables image counter-clockwise rotation when it's orientation is selcted. **Important:** this parameter shouldn't be set to `True`, if `Prohibit ClockwiseRotation` and `ProhibitUpsidedownRotation` parameters are set to `True`.	`False`
`ProhibitUpsidedownRotation`	`Boolean`	Disables image upside-down rotation when it's orientation is selected. **Important:** this parameter shouldn't be set to `True`, if `Prohibit`	`False`

Name	Type	Description	By default
		`ClockwiseRotation` and `ProhibitCounterclockwiseRotation` parameters are set to `True`.	

2.1.8 [PageAnalysisParams]

Parameters of page model analysis:

Name	Type	Description	By default
`DetectText`	`Booalean`	Finds text area during the model analysis when the value is `True.`	`True`
`EnableTextExtractionMode`	`Boolean`	`True` value specifies existing blocks of text on the page. Separate text blocks are to be found during the model analysis. Tables cannot be found. When the value is `True` model analysis cannot be perforemd in `ProhibitModelAnalysis.`	`False`
`DetectTables`	`Boolean`	Detects table during the laypout analysis.	`True`
`AggressiveTableDetection`	`Boolean`	Controls table detaction modes. When the value is `True` FineReader finds all existing tables on the page. It is recommended for the documents, containingbig number of tables.	`False`
`DetectBarcodes`	`Boolean`	Detects barcodes. By default, barcodes are defined as ordinary images.	`False`
`DetectSeparators`	`Boolean`	Detects separation symbols.	`True`
`DetectPictures`	`Boolean`	Detects images during the model analysis.	`True`
`DetectVectorGraphics`	`Boolean`	Detects vector graphics during the model nanlysis.	`True`
`DetectMultipleBusinessCards`	`Boolean`	Detects business cards on a page.	`False`

Name	Type	Description	By default
`NoShadowsMode`	`Boolean`	FineReader will process the image ignoring the shadows.	`False`
`DetectVerticalEuropeanText`	`Boolean`	When the value is `True` FineReader is looking for vertical text. This parameter is valid for all languages, except Chinese, Japanese and Korean languages. `ProhibitCJKColumns` parameter detects the text belonging to this group of languages.	`False`
`ProhibitCJKColumns`	`Boolean`	Text written in Korean, Chinese and Japanese languages can be placed vertically and horizontally. When the value is `True` FineReader is looking for horizontal text on the languages mentioned. Thois parameter is valid only for Korean, Chinese and Japanese languages.	`False`
`ProhibitDoublePageMode`	`Boolean`	When the value is `True` FineReader will not process the image as the double page.	`False`
`ProhibitModelAnalysis`	`Boolean`	When the value is `False,` page models will be sorted out during the page analysis until the model amending the recognition quality is to be found. If the appropriate model cannot be found, standard page analysis is to be performed. **Important:** if `EnableTextExtractionMode` is set to `True`, then it's ignored and model analysis cannot be performed.	`False`
`PaperSizeDetectionMode`	`PaperSizeDetectionModeEnum`	This parameters specifies if previously processed image can have information for analysis. **Important:** for correct work `NoShadowsMode` parameter should be set to `False.`	`PSDM_Auto`
`CollectPdfExportData`	`Boolean`	When the value is `True` FineReader collects all data during the model analysis. Collected data are exported in PDF using MRC-compression if original image was saved in PDF format.	`False`

2.1.9 [PagePreprocessingParams]

Page preprocessing parameters:

Name	Type	Description	By default
`CorrectInvertedImage`	`Boolean`	Finds out image with colour inversion (for example, white text on a black background). If the text colour differes from the normal one during preprocessing, FineReader automatically invert the image colours.	`False`
`CorrectOrientation`	`Boolean`	When the value is `True`, image orientation is to be defined during preprocessing. When it differes from the normal one, FineReader turns the image upside down.	`False`
`CorrectShadowsAndHighlights`	`ThreeStatePropertyValueEnum`	This parameter is used only for photo. When the value is `TSPV_Yes`, shadow and colour correction is to be also performed for further recognition enhancement.	`TSPV_Auto`
`CorrectSkew`	`ThreeStatePropertyValueEnum`	When the value is TSPV_Yes, image incline correction is to be performed during the preprocessing. CorrectSkewMode specifies the incline type. When the value is TSPV_No incline correction cannot be performed.	`TSPV_Auto`
`CorrectSkewMode`	`CorrectSkewModeEnum`	Defines image incline correction mode. `CorrectSkewModeEnum` parametr defines the incline type via `OR`. 0 means that incline coorrection was not performed.	`CSM_CorrectSkewByHorizontalText | CSM_CorrectSkewByVerticalText`
`GeometryCorrectionMode`	`ThreeStatePropertyValueEnum`	Defines the types of geometric distortions to be deleted during the preprocessing.	`TSPV_Auto`
`CorrectResolution`	`ThreeStatePropertyValueEnum`	Defines if image current resolution is to be revised during the preprocessing.	`TSPV_Auto`

2.1.10 [PageProcessingParams]

Page processing parameters:

Name	Type	Description	By default
`PerformPreprocessing`	`Boolean`	When the value is `True,` page preprocessing block is to be launched, including inversion correction, orientation and geometric distortions and is performed before the page analysis.	`True`
`ProhibitColorObjectsAtProcessing`	`Boolean`	Specifies if image colour objects should be filtered before analysis and model recognition.	`False`
`PerformAnalysis`	`Boolean`	Specifies if page analysis is to be performed. When the value is `False`, `[PageAnalisysParams]` section is to be ignored.	`True`
`PerformRecognition`	`Boolean`	Specifies if recognition is to be performed. When the value is `False`, `[RecognizerParams]` section is to be ignored.	`True`

2.1.11 [PrepareImageMode]

Image preprocessing parameters:

Name	Type	Description	By default
`Rotation`	`RotationTypeEnum`	Setting image rotation angle during the image preparation.	`RT_NoRotation`
`CorrectSkew`	`Boolean`	When the value is T`rue,` it corrects the rotation during the image preparation. Rotation correction type is set via `CorrectSkewMode` parameter. When the value is `False` `CorrectSkewMode` is to be ignored.	`True`
`CorrectSkewMode`	`CorrectSkewModeEnum`	Setting image rotation angle. When the value is `OR`, `CorrectSkewModeEnum` constants superposition, meaning the correction modes. When the	`CSM_CorrectSkewByHorizontalText|CSM_CorrectSkewByVerticalText`

Name	Type	Description	By default
		value is 0 — distortion correction is not to be performed.	
`BackgroundFillingColor`	`Integer`	Defines the colour to be chosen to fill in the areas which are to be added after the image rotation correction. When the value is -1 — the colour is to be defined automatically. **Important:** Integer type value is calculated from RGB trio: (Red) +(256*GREEN)+(65536*BLUE).	`-1`
`InvertImage`	`Boolean`	When the value is `True` FineReader inverts the image colours.	`False`
`MirrorImage`	`Boolean`	When the value is `True,` FineReader reflects prepared image to the vertical axis.	`False`
`EnhanceLocalContrast`	`Boolean`	Specifies if image contrast should be increased. This parameter may enhance the further recognition quality. To set this parameter to be `True` is reasonable only for colour and grey images.	`False`
`PhotoProcessingMode`	`PhotoProcessingModeEnum`	Verifies if image should be processed like photo. If this photo is being processed, FineReader uses special algorithms of photo processing during different stages of image processing.	`PPM_Auto`
`AutoOverwriteResolution`	`Boolean`	Specifies if it is required to overwrite resolution of prepared image. This parameter is available when the value of `OverwriteResolution` is `False` . When the value of `AutoOverwriteResolution` is `True` , then FineReader automatically defines image resolutiona and overwrite it.	`True`
`OverwriteResolution`	`Boolean`	Accepts overwriting resolution of prepared image. Resolution is to be overwrited in accordance with the values of `XResolutionToOverwrite`	`False`

Name	Type	Description	By default
		and `YResolutionToOverwrite` parameters. In this case, the new resolution is to be used for preprocessing.	
`XResolutionToOverwrite`	`Integer`	Set horizontal resolution of original image in `DPI`. This value is used to overwrite prepared image in the case when resolution of original image wasn's defined correctly and `OverwriteResolution` parameter is set to `True`. FineReader processes the image with equal horizontal and vertical resolution, thus the program stretches the image the way the prepared image had equal horizontal and vertical rotation and equal to `XResolutionToOverwrite` и `YResolutionToOverwrite` maximum.	`300`
`YResolutionToOverwrite`	`Integer`	Set vertical rotation of orifinal image in `DPI`. This value is used to overwrite rotation of prepared image in the case, when rotation of original image wasn't defined correctly and if `OverwriteResolution` parameter is set to `True`. FineReader processes епру image with equal horizontal and vertical rotation, thus the program stretches the image the way the prepared image had equal horizontal and vertical rotation and equal to `XResolutionToOverwrite` and `YResolutionToOverwrite` maximum.	`300`
`DiscardColorImage`	`Boolean`	When the value is `True,` FineReader leaves only black-and-white flatness within prepared image. In this case image binarization is to be performed.	`False`

Name	Type	Description	By default
`UseFastBinarization`	`Boolean`	When the value is `True,` FineReader uses image fast binarization algorithms. Binarization is performed when image is downloaded (when `DiscardColorImage` is set to `True` during the preparation) or later, when black-and-white image is required. This parameter puts on speed of image binarization, but the quality is getting low.	`False`
`CompressImage`	`ThreeStatePropertyValueEnum`	Set the way to compress image during the convertion into external format.	`TSPV_Auto`
`CreatePreview`	`Boolean`	When thy value is T `rue` FineReader makes preview of prepared image.	`False`
`PreviewHeight`	`Integer`	Set the hight for image preview in pixels. When `CreatePreview` is set to `False` , preview cannot be made and this parameter is to be ignored.	`90`
`PreviewWidth`	`Integer`	Set the width for image preview in pixels. When `CreatePreview` is set to `False` , preview cannot be made and this parameter is to be ignored.	`64`

2.1.12 [RecognizerParams]

Page recognition general parameters:

Name	Type	Description	By default
`TextLanguage`	`TextLanguage`	Set the language for text to be recognised.	`English`
`LanguageDetectionMode`	`ThreeStatePropertyValueEnum`	Controls automatic language identification. When automatic language identification is enabled, language recognition is performed for every word within the text. It is recommended to be used for	`TSPV_Auto`

Name	Type	Description	By default
		documents of language you do not know.	
`TextTypes`	`TextTypeEnum`	This parameter is defined by `OR`, `TextTypeEnum` constants superposition, meaning the types of recognition texts.	`TT_Normal`
`Mode`	`RecognitionModeEnum`	Define the recognition mode to be used. I sued to replaceoutdated `BalancedMode` and `FastMode`.	`RM_Normal`
`LowResolutionMode`	`Boolean`	Parameter for image recognition with low resolution.	`False`
`OneWordPerLine`	`Boolean`	When the value is `True` FineReader will recognise text line as one word.	`False`
`ProhibitItalic`	`Boolean`	When the value is `True,` FineReader cannot recognise symbols written in italic. Recognition speed is growing if the document doesn't contain this kind of text.	`False`
`ProhibitSubscript`	`Boolean`	When the value is `True,` FineReader cannot recognise index symbols.	`False`
`ProhibitSuperscript`	`Boolean`	When the value is `True,` FineReader cannot recognise symbols written via upper indexes.	`False`
`ProhibitHyphenation`	`Boolean`	When the value is T`rue,` FineReader cannot recognise words hyphenation.	`False`
`ProhibitInterblockHyphenation`	`Boolean`	When the value is `True,` one block of text cannot be hyphenated to the next block.	`False`
`CaseRecognitionMode`	`CaseRecognitionModeEnum`	Alphabetic recognition.	`CRM_AutoCase`
`WritingStyle`	`WritingStyleEnum`	Provides information about handwritten text styles.	`WS_Auto`
`FieldMarkingType`	`FieldMarkingType`	This parameter is able to recognise characters next to symbols (underlining, frames, etc). This option is available for handwritten texts only.	`FMT_SimpleText`

Name	Type	Description	By default
`CellsCount`	`Integer`	Specifies the number of symbol cells for the block that was recognised. This option is available for handwritten texts only.	`1`
`UseBuiltInPatterns`	`Boolean`	When the value is `True,` FineReader will use its built-in recognition models. Recognition models are the files relating symbol's shape and symbol. When the value is `False` FineReader uses user patterns only.	`True`
`UserPatternsFile`	`String`	Contains full file path with user recognition model.	`""`

2.1.13 [SynthesisParamsForDocument]

Document synthesis parameters:

Name	Type	Description	By default
`DetectDocumentStructure`	`Boolean`	Specifies if specific structures are to be performed during the document synthesis.	`True`
`DetectFontFormatting`	`Boolean`	Specifies if font formatting should be performed during the document synthesis. When the value is `False`, `[FontFormattingDetectionParams]` section is to be ignored. **Important:** by default FineReader defines font parameters during the document synthesis phase. When the value is `False,` it is required to activate font parameters identification during the page synthesis. It is required to set `True` as `DetectFontFormattingAtPageLevel` parameter for `[SynthesisParamsForPage]` section.	`True`
`LowMemoryMode`	`Boolean`	Specifies if low memory pull mode is to be activated during the document synthesis. When the value is `True,` FineReader will use less than 600 Mb memory during document synthesis process via the download of lower number of pages. But this will reduce synthesis speed and the quality will also be low.	`False`
`PagePoolSize`	`Integer`	Specifies the number of pages to be downloaded at a time during the document synthesis. This parameter can reduce memory	`64`

Name	Type	Description	By default
		pull. It is recommended using the value from 32 to 64. The bigger the number the processing speed is higher. It is not recommended to set big value to process big documents since low memory error may occur. Numbers less than 5 are to be ignored.	

2.1.14 [SynthesisParamsForPage]

Page synthesis parameters:

Name	Type	Description	By default
`ParagraphExtractionMode`	`ParagraphExtractionModeEnum`	Set paragraphs extraction mode.	`PEM_NormalExtraction`
`DetectFontFormattingAtPageLevel`	`Boolean`	When the value is `True`, font parameters are to be defined during the page synthesis phase. This parameter includes detection of low and upper indexes, italic font, lower case and upper case alphabet and it affords using additional parameters from `[FontFormattingDetectionParams]` section. When the value is `False` this section parameteres are to be ignored. **Important:** FineReader specifies font parameters during the document synthesis phase by default. When the value is `True`, it is required deactivating font parameters detection during the document synthesis, setting `DetectFontFormatting` parameter for `[SynthesisParamsForDocument]` section with `False` value.	`False`
`DetectBackgroundColor`	`ThreeStatePropertyValueEnum`	When `TSPV_Yes` value is installed, the colour of background is to be defined during the page synthesis.	`TSPV_Auto`
`AllowGrayBackgroundColor`	`ThreeStatePropertyValueEnum`	When the value is set to `TSPV_Yes`, gray colour is defined for backgound. Otherwise, it is to be defined as black or white. This parameter is taken into consideration when the value of	`TSPV_Auto`

Name	Type	Description	By default
		`DetectBackgroundColor` is `TSPV_Yes` and `TSPV_Auto`.	
`DetectTextColor`	`ThreeStatePropertyValueEnum`	When the value is `TSPV_Yes,` text colour is defined during the page synthesis.	`TSPV_Auto`
`CorrectDynamicRange`	`ThreeStatePropertyValueEnum`	When the value is `TSPV_Yes,` image colours will be corrected to white font and black text or vice versa. Image quality will be better, but recognition speed will get low.	`TSPV_Auto`

2.1.15 [TableAnalysisParams]

Page blocks analysis parameters:

Name	Type	Description	By default
`DetectCellsInversion`	`Boolean`	When the value is `True,` cells inversion detection is performed during the table blocks analysis.	`True`
`DetectCellsOrientation`	`Boolean`	When the value is `True,` cells orientation detection is performed during the table blocks analysis.	`True`
`SingleLinePerCell`	`Boolean`	It is recommended to set this parameter to `True` value, if every line within the table is a cell. Table recognition is to be performed thoroughly.	`False`
`SplitOnlyBySeparator`	`Boolean`	It is recommended to set this parameter to `True` value, if the table recognition is doesn't contain hidden separatotrs.	`False`

2.1.16 Constants

ThreeStatePropertyValueEnum

Name	Description
`TSPV_Auto`	Finereader automatically detects if the mode is required to be applied.
`TSPV_No`	Disabling mode.

Name	Description
`TSPV_Yes`	Activating mode.

CorrectSkewModeEnum

Название	Описание
`CSM_CorrectSkewByBlackSquaresHorizonally`	Image incline angle is corrected in accordance with "black squares" (incline angle is defined in accordance with horizontal square pairs). Black squares are often located within the forms. It is recommended using this constant only while working with forms, otherwise incorrect results can be provided.
`CSM_CorrectSkewByBlackSquaresVertically`	Image incline angle is corrected in accordance with "black squares" (incline angle is defined in accordance with vertical square pairs). Black squares are often located within the forms. It is recommended using this constant only while working with forms, otherwise incorrect results can be provided.
`CSM_CorrectSkewByHorizontalLines`	Image incline angle is corrected in accordance with horisontal lines (price-lists, documents with tables), otherwise incorrect results can be provided.
`CSM_CorrectSkewByHorizontalText`	Image incline angle is corrected in accordance with horizontal text lines.
`CSM_CorrectSkewByVerticalLines`	Image incline angle is corrected in accordance with vertical lines. It is recommended using this constant only for images, containing vertical lines (price-lists, documents with tables).
`CSM_CorrectSkewByVerticalText`	Image incline angle is corrected by means of vertical text lines. It is recommended using this constant working with documents made in Chinese, Japanese and Korean languages.

OrientationDetectionModeEnum

Name	Description
`ODM_Fast`	Fast mode to define pages orientation with the loss of quality.
`ODM_Normal`	Normal mode to define pages orientation.
`ODM_Thorough`	Thorough mode to define pages orientation with no loss of quality.

PaperSizeDetectionModeEnum

Name	Description
`PSDM_Auto`	Area is defined automatically and can be less than the original image.
`PSDM_Unknown`	There is no sufficient information about large image area. Area considered for analysis can be less that the image itself.
`PSDM_CloseToImageSize`	Whole image may contain information for analysis. Area to be analysed cannot be less than the original image.

BarcodeTypeEnum

Name	Standard
`BT_Autodetect`	Automatic
`BT_Aztec`	Aztec
`BT_Codabar`	Codabar
`BT_Code128`	Code 128
`BT_Code32`	Code 32
`BT_Code39`	Code 39
`BT_Code93`	Code 93
`BT_DataMatrix`	Data Matrix
`BT_EAN13`	EAN 13
`BT_EAN8`	EAN 8
`BT_FullAscii`	Full ASCII Code 39
`BT_IANA25`	Code 2 of 5 (it is recommended to use if you are sure this type of barcode is on the image .This type of barcodes have no control sum and by mistake can be found on the image with no barcodes).
`BT_Industial25`	Industrial 2 of 5

`BT_IntelligentMail`	Intelligent Mail
`BT_Interleaved25`	Interleaved 2 of 5 (it is recommended to use if you are sure this type of barcode is on the image. This type of barcodes have no control sum and by mistake can be found on the image with no barcodes).
`BT_Matrix25`	Matrix 2 of 5 (it is recommended to use if you are sure this type of barcode is on the image. This type of barcodes have no control sum and by mistake can be found on the image with no barcodes).
`BT_MaxiCode`	MaxiCode
`BT_Patch`	Patch
`BT_PDF417`	PDF417
`BT_PostNet`	PostNet
`BT_QRCode`	QR Code
`BT_UCC128`	GS1-128
`BT_Unknown`	Unknown type of barcode. It is used as return message when it is impossible to identify barcode type.
`BT_UPCA`	UPC-A
`BT_UPCE`	UPC-E

BarcodeOrientationEnum

Имя	Описание
`BO_Autodetect`	Automatic.
`BO_Down_To_Top`	Down-to-top orientation.
`BO_Left_To_Right`	Left-to-right orientation.
`BO_Right_To_Left`	Right-to-left orientation.
`BO_Top_To_Down`	Top-to-down orientation.

`BO_Unknown`	Unknown type of barcode orientation. It is used as return value if orientation type cannot be defined.

TextTypeEnum

Название	Описание
`TT_Gothic`	Gothic style text recognition.
`TT_Handprinted`	Handwritten text. Automatic analysis is unavailable for handwritten text, block coordinates where handwritten text is contained are required to be enetered manually.
`TT_Index`	Special typesetting symbols, including only postal index numerals.
`TT_Matrix`	Text on the image, printed with matrix printer.
`TT_MICR_CMC7`	Symbols, including only numerals and letters A,B,C,D,E, written with CMC-7 font.
`TT_MICR_E13B`	Symbols, including only numerals and letters A,B,C,D,E, printed with magnetic ink.
`TT_Normal`	General typegraphical type of text.
`TT_OCR_A`	Monoscaped font, made for OCR. It is widely used in the banks, on the credit cards, etc.
`TT_OCR_B`	Font, made for OCR.
`TT_Receipt`	Text within pay receipts, bills and vouchers. Different from the other text types, text font is not important, because FineReader considers text to be recognised the one that is low quality monospaced or ordinary font.
`TT_Typewriter`	Text, printed with a typewriter.

CaseRecognitionModeEnum

Name	Description
`CRM_Auto`	Alphabetic shift automatic detection and its continuance within the output text.
`CRM_CapitalCase`	Text to be recognised to shift to capitals.
`CRM_SmallCase`	Text to be recognised to lowercase shift.

ParagraphExtractionModeEnum

Name	Description
`PEM_NormalExtraction`	Paragraphes normal extraction.
`PEM_RoughExtraction`	Minimum number of paragraphes to be extracted.
`PEM SingleLineParagraphsWithSpaceFormatting`	Every line is extracted like a separate paragraph, formatted with spaces.
`PEM SingleLineParagraphsWithWordSeparationOnly`	Every line is extracted like a paragraph with no space formatting between separate words.

MonospaceDetectionModeEnum

Name	Description
`MDM_Auto`	Monospaced font is automatically detected.
`MDM_Ignore`	Monospaced font detection option is to be ignored.
`MDM_Monospace`	To set monospaced font.
`MDM_NotMonospace`	To set not monospaced font.

RotationTypeEnum

Name	Description
`RT_Clockwise`	Rotates an image 90 degrees clockwise.
`RT_Counterclockwise`	Rotates an image 90 degrees counterclockwise.
`RT_NoRotation`	Does not rotate an image.
`RT_Upsidedown`	Rotates an image upside down.
`RT_UnknownRotation`	Rotation angle is undefined.

PhotoProcessingModeEnum

Name	Description
`PPM_Auto`	FineReader automatically detects if the image is a photo.

Name	Description
`PPM_TreatAsPhoto`	Image is treated as a photo.
`PPM_TreatAsNonPhoto`	Image is treated as non photo.

RecognitionModeEnum

Name	Description
`RM_Normal`	Balanced recognition mode. Parameter is available for typescripts. For handwriting full recognition mode is to be used.
`RM_Fast`	Fast recognition mode. Processing speed is 2-2.5 times higher than the balanced mode, but error risk is 1.5-2 higher. Parameter can be used for typescripts and handwriting . We do not recommend to use this mode to recognize short fragments.
`RM_Accurate`	Accurate recognition mode. The highest recognition accuracy, but the lower speed.

2.1.17 FRProfile.ini example

Ini-file settings example, located in `/opt/iw/tm5/etc/CRProfile.ini` :

Contents	Description
`[RecognizerParams]`	To use page recognition parameters.
`TextLanguage = English,Russian`	To set Russian and English languages for text recognition.
`[PagePreprocessingParams]`	To use page preprocessing parameters.
`CorrectOrientation = True`	To enable automatic orientation correction.
`CorrectResolution = TSPV_Yes`	To specify if current image resolution should be fixed for pre-processing.
`[PrepareImageMode]`	To use image preprocessing parameters.
`CorrectSkew = True`	To enable image incline correction.

Contents	Description
`AutoOverwriteResolution=true`	To verify if the resolution for prepared image should be rewritten. This parameter is available when the value of `OverwriteResolution` parameter is `false.` If `AutoOverwriteResolution`'s value is `True`, then FineReader can automatically define and rewrite the image resolution.
`[FontFormattingDetectionParams]`	To use font formatting parameters.
`DetectFontFamily = False`	Font detection disabling.
`DetectBold = False`	Bold font detection disabling.
`DetectFontSize = False`	Font size detection disabling.
`[SynthesisParamsForPage]`	To use page synthesis parameters.
`DetectFontFormattingAtPageLevel=True`	To enable font formatting detection during the page synthesis phase.
`[SynthesisParamsForDocument]`	To use documents synthesis parameters.
`DetectFontFormatting = False`	To disable font formatting detection during the document synthesis phase.
`DetectDocumentStructure = False`	To disable document structure detection.
`[PageAnalysisParams]`	To use page analysis parameters.
`EnableTextExtractionMode = False`	To disable search mode for text blocks on a page.
`DetectPictures = False`	Image detection disabling.
`ProhibitModelAnalysis = True`	To disable model analysis.