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XLSIG

Инструкция по установке

Версия 1

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1. Установка системы

Все команды должны выполняться от имени пользователя root. **Сору и paste. Соблюдайте точный порядок действий!**

1.1. Операционная система

Поддерживаемая ОС:

Версия DEBIAN ≥ 10

ASTRA Linux

Версия CentOS = 7

Рекомендуется: DEBIAN

1.2. Установка XLSIG

Скопируйте следующие файлы в /xl/bin/ifo_a:

- xl_main
- start
- stop
- xlmon
- xlsig

в папку /xl/bin/ifo_a:

```
chown root:root /xl/bin/scripts/*  
chmod +x /xl/bin/scripts/*
```

```
chown root:root /xl/bin/ifo_a/*  
chmod +x /xl/bin/ifo_a/*
```

При необходимости добавьте статические маршруты для служб Sigtran, SMTP, SNMP. Если возможно, добавьте с помощью nmtui.

Доступ к почтовому серверу (SMTP):

- отправьте тестовое письмо, настройте SMTP в файле конфигурации для xlmon.

Доступ к SNMP-серверу:

- отправить тестовый SNMP, настроить SNMP в файле конфигурации для xlmon:

```
rc.local
```



```
/xl/bin/ifo_a/xl_main -b &  
chmod +x /etc/rc.local
```

Перезагрузите сервер, проверьте, все ли сервисы online.

1. Конфигурация переменных xlsig (XLSIG_CFG.INI)
2. Настройка ассоциаций STP (XLSIG_SS7.INI)
3. Настройка ассоциаций XLSIG-XLSTATE (XLSIG_SS7.INI)
- добавить/настроить ассоциацию XLSTATE
4. Подготовьте файл нормализации.csv.
5. Настройка переменных xl_main (XL_MAIN.INI)
6. Проверьте разрешения на исполняемые файлы для бинарных файлов в сценариях start и stop.
7. Запускаем сервисы
./start
8. Убедитесь, что файл /xl/log/ifo_a/ifo_app.csv содержит строку "LOADING RULE FILES SUCCESSFUL"
9. Проверьте статус ассоциаций в файле /xl/export/local_a/ifo_stat.csv file.
10. Снимите трейс (если необходимо)

Пример:

1. trace_start.bash

```
#!/usr/bin/bash  
  
tracedate=$(date +%Y_%m_%d)  
tracetime=$(date +%H)  
  
/usr/sbin/tcpdump -i any -G 3600 -W 1 -w /xl/trace/trace-  
RT11_${tracedate}-hour-${tracetime}.pcap -Z root -z gzip sctp
```

2. trace_cleanup.bash

```
#!/usr/bin/bash  
  
find /xl/trace/trace*.gz -mtime +1 -exec rm -f {} \;
```

3. Добавьте скрипты в crontab



```
0 * * * * /xl/bin/scripts/trace_start.bash > /dev/null 2>&1
0 * * * * /xl/bin/scripts/trace_cleanup.bash > /dev/null 2>&1
```

2. Конфигурация XLSIG

XLSIG управляется с помощью правил и фильтров, которые настраиваются в файлах конфигурации модулей, перечисленных в главах ниже.

2.1. Описание файлов конфигурации XLSIG

Файлы конфигурации хранятся в таблице файлов XLSIG в форматах INI и CSV. Некоторые из них обязательны, а некоторые генерируются автоматически при запуске программы XLSIG, если они не существуют, но их необходимо правильно отредактировать вручную. Все файлы конфигурации считываются при запуске XLSIG. Если вы измените содержимое файла Rules.csv, XLSIG будет читать и использовать все файлы конфигурации во время работы XLSIG. Однако некоторые параметры требуют перезапуска XLSIG и отмечены в этих таблицах. Выходные файлы и файлы журналов автоматически генерируются XLSIG.

Default Filename	Required	Type	Description
/xl/bin/ifo_a/XLSIG_CFG.INI	Autogenerated	Autogenerated configuration file	Configuration of XLSIG - general
/xl/bin/ifo_a/XLSIG_SS7.INI	Autogenerated	Autogenerated configuration file	Configuration of XLSIG - associations
/xl/bin/ifo_a/XLSIG_PROXY.INI	Autogenerated	Autogenerated configuration file	Configuration of XLSIG - proxy and monitoring
/xl/bin/ifo_a/XLSIG_SIP.INI	Autogenerated	Autogenerated configuration file	Configuration of XLSIG - SIP
/xl/export/local_a/fas_prfx_crr.csv	Yes		Prefix File (number prefix to carrier map)
/xl/export/local_a/mnp_list.csv	Yes	mnp_update.sh	MNP list (number transfers)
/xl/export/local_a/subs_data.csv	Yes	mnp_update.sh	Subscriber data
/xl/export/local_a/timezone.csv	Yes	Static file (copied)	Timezone descriptions (global)
/xl/export/local_a/normalization.csv	Yes	Copied/manually edited	Normalization descriptions (global)
/xl/export/local_a/info_presets.csv	Yes	Manually edited	Presets for Info field exporting to State server
/xl/export/local_a/state_domains.csv	Yes	Manually edited	State domains description
/xl/export/local_a/suspend_state.csv		Autogenerated	Status of suspended rules
/xl/cdr/local_a/cdr.csv		Output	CDR output (CDR file for import to database) (optionally periodically moved to timestamped file)
/xl/export/local_a/ifo_hash.csv		Output for xlmon	MD5 hashes and age of loaded files (for xlmon)
/xl/log/ifo_a/ifo_log.csv		Log	Log (M3UA, SCCP)
/xl/log/ifo_a/ifo_app.csv		Log	Log (GENERAL, RULE, TCAP, SIP)



Default Filename	Required	Type	Description
/xl/log/ifo_a/sctp_log.csv		Log	Log (SCTP)
/xl/log/ifo_a/event_log.csv		Log	Event log (rule activation, TCG update)

2.1.1 XLSIG_CFG.INI

Красный цвет обозначает параметры, которые необходимо проверить и изменить вручную.

Parameter	Description	Must set	Need restart
GLB:RULE_FILE_EXT=/xl/export/local_a/rules.csv	Rules file filename		
GLB:RULE_COUNT_MAX=25000	Storage size for rules		
GLB:PREFIX_FILE=/xl/export/local_a/pfx.csv	Prefix file filename		
GLB:CARRIER_FILE=/xl/export/local_a/carr_sk.csv	Carrier (Carrier - Service key) list file filename		
GLB:NUMLIST_FILE_COUNT=1	Number of numlist files		
GLB:NUMLIST_FILE(2,3,...)=/xl/export/local_a/numbers_lists.csv	Number lists file filename		
GLB:NUMLIST_COUNT_MAX=1000	Storage size for numberslists (max number of numberlist IDs)		Yes
GLB:TIME_TEMPLATE_FILE=/xl/export/local_a/time_templates.csv	Time templates file filename		
GLB:MNP_NUMLIST_FILE=/xl/export/local_a/mnp_list.csv	MNP list file filename		
GLB:REGIONLIST_FILE=/xl/export/local_a/regions.csv	Regions file filename		
GLB:CATEGORY_SECTION_FILE=/xl/export/local_a/category_section.csv	Category-section links file filename		
GLB:CARRIER_FAS_FILE=/xl/export/local_a/carr_fas.csv	Carrier FAS file filename		
GLB:SUBSCRIBER_DATA_FILE=/xl/export/local_a/subs_data.csv	Subscriber data file filename		
GLB:CARRIER_LIST_FILE=/xl/export/local_a/carrier_list.csv	Carrier list file filename		
GLB:DESTINATION_PREFIX_FILE=/xl/export/local_a/prefix_destination.csv	Destination prefix file filename		
GLB:DESTINATION_LIST_FILE=/xl/export/local_a/destination_list.csv	Destination list file filename		
GLB:HOLIDAYS_FILE=/xl/export/local_a/holidays.csv	Holidays file filename		
GLB:PARAMETER_LIST_FILE=/xl/export/local_a/parameter_list.csv	Parameter list file filename		
GLB:TIMEZONE_FILE=/xl/export/local_a/timezone.csv	Timezone description file filename		
GLB:NORMALIZATION_FILE=/xl/export/local_a/normalization.csv	Normalization file filename		
GLB:SUSPEND_STATE_FILE=/xl/export/local_a/suspend_state.csv	Suspend state file filename		
GLB:SUSPEND_FILE=/xl/export/local_a/suspend.csv	Suspend file filename		
GLB:FILE_HASHES_FILE=/xl/export/local_a/ifo_hash.csv	File hashes file filename		



Parameter	Description	Must set	Need restart
GLB:CDR_FILE=/xl/cdr/local_a/cdr.csv	XLSIG CDR filename		
GLB:CDR_MOVE_INTERVAL=0	if > 0 it enables moving (renaming) CDR file every 'CDR_MOVE_INTERVAL' seconds, to a timestamped file, e.g.: 'cdr.out-2020-09-16_111520'.	Yes	
GLB:CDR_EVENT_FILE=/xl/cdr/local_a/cdr_event.csv	XLSIG event CDR filename		
GLB:CDR_SIGNALLING_FILE=/xl/cdr/local_a/signalling.csv	XLSIG signalling CDR filename		
GLB:TRACKING_CDR_FILE=/xl/cdr/local_a/tracking_cdr.csv	Tracking CDR filename		
GLB:STAT_FILE=/xl/export/local_a/ifo_stat.csv	XLSIG stat file filename		
GLB:PERF_FILE=/xl/export/local_a/ifo_perf.csv	XLSIG perf file filename		
GLB:CARR_PERF_FILE=/xl/export/local_a/carr_perf.csv	XLSIG carr perf file filename		
GLB:LOG_FILE=/xl/log/ifo_a/ifo_log.csv	XLSIG log file filename		
GLB:APP_LOG=/xl/log/ifo_a/ifo_app.csv	XLSIG app log file filename		
GLB:SCTP_LOG=/xl/log/ifo_a/sctp_log.csv	XLSIG sctp log file filename		
GLB:EVENT_LOG=/xl/log/ifo_a/event_log.csv	XLSIG event log file filename		
GLB:MNP_OWN_CODE=0	Mnp code of current operator	Yes	
GLB:LOGGING=0	Logging level (0 = all off, 1 = only LOG_GENERAL on, 2 = all on)	Yes	
GLB:LOG_GENERAL=1	Log type for level GENERAL (0 = off, 1 = file only, 2 = stdout and file)		
GLB:LOG_SCTP=0	Log type for level SCTP (0 = off, 1 = file only, 2 = stdout and file)		
GLB:LOG_M3UA=0	Log type for level M3UA (0 = off, 1 = file only, 2 = stdout and file)		
GLB:LOG_SCCP=0	Log type for level SCCP (0 = off, 1 = file only, 2 = stdout and file)		
GLB:LOG_RULE=1	Log type for level RULE (0 = off, 1 = file only, 2 = stdout and file)		
GLB:LOG_CALL=1	Log type for level CALL (0 = off, 1 = file only, 2 = stdout and file)		
GLB:LOG_SIP_CALL=1	Log type for level SIP (0 = off, 1 = file only, 2 = stdout and file)		
GLB:LOG_MAX_SIZE_MB=1024	Max file size for log files in megabytes before rotating, negative number = unlimited		
GLB:LOCALITY_ALG=0	1 = use Route origin as SK, 2 = use Route origin with SK as SK, 3 = 1000*SK + RO	Yes	
GLB:OWN_STATE_ROUTE=1	State route parameter for this server (origin route in State packets)		



Parameter	Description	Must set	Need restart
GLB: NORMALIZATION_PREFIX =7	Country dependent number prefix (7 = Russia, 386 = Slovenia etc.)	Yes	
GLB: NATIONAL_DIAL =8	Country dependent national dial number	Yes	
GLB: INTERNATIONAL_DIAL =810	Country dependent international dial number	Yes	
GLB:BCD_ALGORITHM=1	2 = remove last digit on odd number of digits in BCD number decoding		
GLB:WORKER_COUNT=(CPU COUNT - 1)	Number of worker threads		Yes
GLB: STORE_SIGNALLING_CDR =0	1 = enable writing of signalling CDR, 2 = write Signalling CDRs but exclude IDPs using prefix	Yes	
GLB:SIGNALLING_CDR_IDP_EXCLUDE_CALLING_GT=7*	Prefix for CallingGT to exclude IDPs from Signalling CDR when STORE_SIGNALLING_CDR=2		
GLB:SIGNALLING_CDR_PACKET_DATA=1	1 = include packet ethernet frame data in Signalling CDR		
STATE: DOMAIN_FILE =/xl/export/local_a/state_domains.csv	Xlstate domains file filename	Yes	
ODB:ACTIVE=0	1 = OBD active		
ODB:NUMBER_LIST=0	Numlist ID to be used with OBD		
GLB: NUMLIST_MAX_SIZE =10000000	Numlist storage capacity. The size should be set to 100.000.000 (100 mio)	Yes	Yes
GLB: SUBSCRIBER_DATA_MAX_SIZE =10000000	Subscriber data capacity (subs_data.csv)	Yes	Yes
GLB:MNP_SIZE=30000000	Capacity for MNP entries (mnp_list.csv)		Yes
GLB:DESTINATION_PREFIX_MAX_SIZE=2000000	Capacity of Destination prefix		Yes
GLB:DESTINATION_LIST_ITEMS_MAX_SIZE=200000	Capacity of Destination list items		Yes
GLB:DESTINATION_LIST_MAX_SIZE=10000	Capacity of Destination lists		Yes
GLB: STRING_SIMILARITY_ALGORITHM =0	Algorithm ID for String similarity	Yes	No
GLB: STRING_SIMILARITY_THRESHOLD =3	String similarity threshold	Yes	No
GLB:STRING_SIMILARITY_MAX_LIST_SIZE=100	Limit for numlist used with string similarity search (to prevent high CPU usage)		
GLB:STATE_SUBSCRIPTION_MAX_SIZE=500000	Capacity of State subscriptions (Event tracking)		Yes
GLB:STATE_SUBSCRIPTION_TIMEOUT_SECONDS=1800	Timeout for State subscription (Event tracking)		
GLB:CARRIER_LIST_MAX_SIZE=5000	Capacity for Carrier lists		Yes
GLB:CARRIER_LIST_ITEMS_MAX_SIZE=50000	Capacity for Carrier lists items		Yes



Parameter	Description	Must set	Need restart
GLB:RESPONSE_DATA_MAX_COUNT=5000	Capacity for tracking calls with actions which require delayed response (54, 55, etc.)		Yes
GLB:STAT_FILE_VERBOSITY=1	2 = print additional data into ifo_stat.csv		
NORMALIZE:COUNT=0	Count of NORMALIZE:PFX_entries		
NORMALIZE:PFX_0=D????	Normalization prefix 0 (remove prefix during number normalization)		
GLB:USSD_SUB_MENU_ENABLED=0	Enable receiving of USSD RRL (reply) messages		
GLB:USSD_SUB_MENU_TIMEOUT_MS=25000	Timeout in ms for replies to an USSD Subscriber Menu message		
GLB:USSD_ALERTING_PATTERN=2	Value for alerting pattern field of USSD messages		
GLB:RT_SOCKET_ENABLED=0	1 enables listening on Unix domain socket ("RT" functionality)		
GLB:RT_SOCKET_PATH=/var/spool/xlsfw/xlsig	RT Unix domain socket file		
GLB:TRACKING_CDR_ENABLED=0	1 enables writing of tracking CDRs		
GLB:CDR_EVENT_ENABLED=0	1 enables writing of cdr_event		
GLB:ACTIVE_CHECK_TIMER_MS=50	Active check timeouting timer period		
GLB:PROFILECHECK_TIMEOUT_MS=2000	Profile check timeout		
GLB:REDIRECT_SPECIAL_HANDLING=0	if 1, in action 21 remove D??02 from BNum		
GLB:MAX_INPUT_QUEUE_SIZE=3000	Capacity for input packet (SCTP part) queue		Yes
GLB:PRN_RRL_ADVERTISE_DOMAIN_ID=-1	(RO only) if > 0, DomainID to advertise to PRN RRLs		
GLB:ATI_REQUEST_TIMEOUT_MS=1000	Timeout for ATI requests (initiated by xlstate/xlapi)		
GLB:DYNAMIC_NUM_LIST_MAX_SIZE=2048	Capacity for dynamic number list items		Yes
GLB:SYSTEM_SUSPEND_CALL_THRESHOLD=0	if > 0, enable possible System suspend based, when calls per 10 sec exceed this threshold		
GLB:SYSTEM_SUSPEND_ACTION_PERCENT_THRESHOLD=30	Percentage of calls answered with action required for System suspend		
GLB:ROAMING_NUMBER_REQUESTS_MAX_SIZE=1024	Capacity for parallel Roaming number requests		Yes
GLB:ROAMING_NUMBER_REQUESTS_TIMEOUT_MS=500	Roaming number request timeout		



Parameter	Description	Must set	Need restart
GLB:OPTIMIZE_QUESTIONMARK_NUMBERS=0	1 = use optimization for numbers ending with ?, requires different sorting on numbers_lists		
GLB:IW_REDIRECT_NUMBER=0	1 = use C number if present from IW IDP as C number in call processing instead of B		
GLB:ENABLE_EXTENSION_TG=0	1 = enable SK reading from TG field in IDP		
GLB:EXTENSION_TG_OFFSET=20000	Offset to use for SK from TG field		
HTTP:HTTP_HEADER_HOST=127.0.0.1	Host string used in HTTP requests		
HTTP:REQUEST_QUEUE_SIZE=100000	Queue size used for HTTP requests (max number of parallel requests)		Yes
HTTP:HTTP_RESPONSE_POOL_SIZE=1000	Max buffers used to recompose HTTP responses in multiple packets		Yes
HTTP:A2P_URL= http://127.0.0.1:5000/a2p_request	URL used for outgoing A2P requests		
HTTP:HTTP_TIMEOUT_MS=2000	Timeout used in HTTP requests and in HTTP active check request		
GLB:MAX_APPLY_CHARGING_TIME_DELAY_S=600	ApplyCharging max time (per 1 ApplyCharging request) for action 55		
GLB:EKEY_SETTINGS=1;aabbccdd	Ekeys used in IW hash keys <id>;<key>[;<id>;<key>...]		
GLB:DEFAULT_NORMALIZATION_ID=-1	if > 0, Normalization ID to use in case carrier doesn't have a specified Normalization ID		
GLB:INFO_PRESET_DEFAULT_ID=-1	if > 0, ID of Info field configuration preset that is sent to State server		
GLB:HLR_CACHE_ENABLED=0	if 1, enable HLR check result caching		
GLB:HLR_CACHE_MAX_SIZE=20000	determines the maximum number of HLR results that can be stored		
GLB:HLR_CACHE_TIMEOUT_S=3600	determines how long will a HLR result remain in the cache		
GLB:HLR_CACHE_A_NUMBER_TRANSFER_TIMEOUT_S=10	determines how long the information is stored when ATI request is sent before receiving result		



2.1.2 XLSIG_CFG.INI (SMS Firewall)

Parameter	Description	Must set	Need restart
GLB:MACHINE_LEARNING_EXPORT_FILE=/xl/cdr/local_a/xlearn_export.csv	export file for data for processing by machine learning process (xlearn)		
GLB:SMSFW_SIGNALLING_CDR=/xl/cdr/local_a/smsfw_signalling_cdr.csv	CDR file for SMSFW signalling		
GLB:SRI4SM_STORAGE_MAX_SIZE=100000	storage capacity for SRI4SM		
GLB:IMSI_STORAGE_MAX_SIZE=15000000	storage capacity for IMSI		
GLB:FSM_STORAGE_MAX_SIZE=30000	storage capacity for FSM		
GLB:FSM_PACKET_STORAGE_MAX_SIZE=60000	storage capacity for FSM packet		
GLB:SMSFW_FSM_REQUIRES_SRI4SM=0	if 0 also process FSMs for which there is no SRI4SM/RRL SRI4SM session found (with those parameters empty), if 1 only process FSM for which there is an SRI4SM session		
GLB:SMSFW_SRI4SM_TIMEOUT=60	SRI4SM timeout		
GLB:SMSFW_SRI4SM_CACHE_TIMEOUT=14400	SRI4SM cache timeout		
GLB:SMSFW_FSM_TIMEOUT=900	FSM timeout		
GLB:SMSFW_FSM_NO_RRL=1	if 1 don't wait for RRL, send RRL, all FSMs and write CDR		
GLB:SMSFW_USE_OWN_GT_SRI4SM=0	if 1 insert OWN GT as calling GT in forwarded SRI4SM		
GLB:SMSFW_USE_OWN_GT_FSM=0	if 1 insert OWN GT as calling GT in forwarded FSM		
GLB:SMSFW_OWN_SERVER_ID=0	ID of servers, IDs should start with 0 and increase by 1 for each next server		
GLB:SMSFW_SERVER_COUNT=1	number of servers		
GLB:SMSFW_DISCARD_ANONYMOUS_FSM=1	if > 0 and no IMSI or MSISDN, discard the MO-FSM		
GLB:MT-FSM_FOREIGN_GT=1	in case of CalledGT != ownGT: 0 = let through without dehoming, 1 = silent discard		
GLB:HOME_ZONE_ROUTING=1	0/1: disable/enable home zone routing (changing of IMSI in variable and buffer for further processing from fake to original)		



Parameter	Description	Must set	Need restart
GLB:SMSFW_USE_OWN_OPC_DPC_IN_REPLY=1	if > 0 use SCTP association's OPC and DPC in FSM replies (and other packets)		
GLB:SMSFW_FORWARD_MULTIPART=0	if > 0 enable forwarding of multipart FSM without processing		
GLB:SMSFW_SYNC_SRI4SM_BETWEEN_SERVERS=0	if > 0 enable synchronization between smsfw servers		

2.1.3 XLSIG_PROXY.INI (SMS Firewall)

Parameter	Description	Must set	Need restart
GLB:SMSFW_INPUT_TT=-1	if >= 0 provides an input filter for TT		
GLB:SMSFW_PROXY_NON_PROCESSED=1	if 0 don't proxy packets that don't enter rule processing (useful for debug and testing)		

2.1.4 XLSIG_SMPP.INI (SMS Firewall)

Parameter	Description	Must set	Need restart
General:SERVER_PORT=9000	server port		
General:SERVER_SYSTEM_ID=	server system ID		
General:SERVER_SYSTEM_PWD=PWD	server system password		
General:CLIENT_HOST_PEER=1.1.1.1	client host peer IP address		
General:CLIENT_HOST_OWN=0.0.0.0	client host own IP address		
General:CLIENT_PORT_PEER=9000	client peer port		
General:CLIENT_PORT_OWN=3000	client own port		
General:CLIENT_CLIENT_ID=SMPP	client client ID		
General:CLIENT_SYSTEM_PWD=PWD	client system password		
General:CLIENT_BIND_TYPE=9	client bind type: 2 = transmitter, 9 = transceiver		



Parameter	Description	Must set	Need restart
General:CLIENT_HEARTBEAT_S=5	client heartbeat in seconds		
General:CLIENT_ACTIVITY_TIMEOUT_S=10	client activity timeout in seconds; for configuring SMPP client connection restart (0 to disable)		

2.1.5 XLSIG_SS7.INI

Parameter	Description	Must set	Need restart
GLB:OWN_GT=0123456789	GT global title used as CallingGT in outbound self-initiated packets or replies to packets depending on GLB:GT_OVERRIDE	Yes	
GLB:GT_OVERRIDE=1	1 - means that the system will answer with reversed GTs to the received message (regardless of the GT on which the message arrives, it will answer from this address). SCCP header in replies will have CallingGT and OPC from input packet (from CalledGT, DPC) 0 - means that it accepts a message to any address and in the answer writes it's address, as is specified in SS7.INI. It will use data from our configuration (GLB:OWN_GT and ASSOC#n:OPC)	Yes	
GLB:DPC_OVERRIDE=1	if 1 SCCP header in replies will have DPC from input packet (from OPC), if 0 it will use data from our configuration (ASSOC#n:DPC)	Yes	
GLB:ATI_SCF=0123456789	SCF-Address number used in ATI requests (HLR check). Write the GT number	Yes	
GLB:ATI_ALLOWED_PREFIX=*	Prefix which is allowed for ATI requests		
GLB:ATI_TT=0	Destination TT for ATI requests		
GLB:HLR_CHECK_USE_ATI=1	if 0 use SRI4SM for HLR check, 1 = use ATI for current carrier, 2 = like 1 but for other carriers send SRI4SM		
GLB:HLR_CHECK_ASSOC=	Comma separated list of indices (1-based) of associations to be used for HLR check, if empty (default) incoming association of IDP is used. Associations are used equally using round-robin.		
GLB:OWN_CARRIER_ID=0[,1,2...]	1 or more comma separated carrier IDs used for HLR check	Yes	
GLB:TIMER_ACTIVITY=10	If no RX on assoc for this many seconds, reinitialize SCTP assoc		
GLB:TIMER_HB=5	If no RX on assoc for this many seconds, send a heartbeat		
GLB:RRBE_ENABLE=0	0 = disable RRBE in general, > 0 enable		
GLB:RRBE_EVENTS=7,9	A list of RRBE events, default: answer, disconnect, if empty, RRBE events are not added		
GLB:RRBE_EVENTS_INTERRUPT=	A list of RRBE events (must be enabled in RRBE_EVENTS also) to use interrupt monitor mode		
GLB:RRBE_APPLICATION_TIMER=0	value > 0: add applicationTimer criteria with specified value into O_NOANSWER RRBE, 0 = not included		
GLB:SYNC_STATE_SUBSCRIPTION_ASSOC=-1	(xlsig_ro only) if > 0, index of association for the 2nd xlsig_ro with which it is necessary to synchronise Call progress tracking (State subscription) - necessary in installations where ERB events can arrive at a different xlsig_ro instance than the initial IDP for the same call		Yes



Parameter	Description	Must set	Need restart
GLB:RRBE_EVENTS_IVR=7,9	RRBE events in case of IVR action		
GLB:RRBE_EVENTS_INTERRUPT_IVR=	RRBE events with interrupt in case of IVR action		
GLB:RRBE_APPLICATION_TIMER_IVR=0	Application timer value in case of IVR action		
GLB:RRBE_LEG_ID=1	if > 0 add LegID parameter into RRBE message		
GLB:SCTP_ASSOC_COUNT=1	Number of SCTP Associations. Verify if this number is the same as the number of associations that are written in this same file	Yes	Yes
ASSOC#n:DISPLAY_NAME=ASSOC	Display name for this association	Yes	
ASSOC#n:ASSOCIATION_ACTIVE=0	1 = enable this association	Yes	Yes
ASSOC#n:SERVER=1	0 = perform as client (send INIT), 1 = perform as server (wait for INIT)	Yes	Yes
ASSOC#n:PORT_LOCAL=0	Port number on this machine to use	Yes	Yes
ASSOC#n:PORT_REMOTE=0	Port number on the remote machine to use	Yes	Yes
ASSOC#n:IP_LOCAL1=0.0.0.0	First IP to use on this machine	Yes	Yes
ASSOC#n:IP_LOCAL2=0.0.0.0	Second IP to use on this machine (or 0.0.0.0 to disable multihoming)	Yes	Yes
ASSOC#n:IP_PEER1=0.0.0.0	First IP to use on the remote machine	Yes	Yes
ASSOC#n:IP_PEER2=0.0.0.0	Second IP to use on the remote machine (or 0.0.0.0 to disable multihoming)	Yes	Yes
ASSOC#n:ROUTING_CONTEXT=0	Routing context value if enabled	Yes	
ASSOC#n:TRAFFIC_MODE=2	Value of traffic mode in ASPAC and ASPAC_ACK messages		
ASSOC#n:NETWORK_APPEARANCE=0	if > 0, add Network Appearance parameter in replies with the specified value	Yes	
ASSOC#n:ADDRESS_IND=67	Unused		
ASSOC#n:SSN=252	Calling (Own) SSN if GT_OVERRIDE=0	Yes	
ASSOC#n:OPC=1	Originating Point Code	Yes	
ASSOC#n:DPC=15033	Destination Point Code	Yes	
ASSOC#n:SEND_DAUD=1	if 1 send DAUD during association init sequence		
ASSOC#n:SEND_DAVA=1	if 1 send DAVA during association init sequence		
ASSOC#n:SEND_ASPUP=1	Unused		
ASSOC#n:SEND_NTFY=1	if 1 send NTFY during association init sequence after ASPAC_ACK		
ASSOC#n:SEND_NTFY_DOWN=1	Unused		
ASSOC#n:SEND_RC=0	if 1 add Routing Context parameter to data replies and DAVA		
ASSOC#n:NETWORK_INDICATOR=3	M3UA header Network Indicator value		
ASSOC#n:NP_CALLING=1	SCCP header CallingGT Numbering Plan value (if GT_OVERRIDE=0) - 1 = ISDN		
ASSOC#n:NP_CALLED=1	SCCP header CalledGT Numbering Plan value		



Parameter	Description	Must set	Need restart
ASSOC#n:NP_CALLING_ATI=1	SCCP header CallingGT Numbering Plan value for ATI messages		
ASSOC#n:NP_CALLED_ATI=1	SCCP header CalledGT Numbering Plan value for ATI messages		
ASSOC#n:STATE_SERVER=0	1 = Association to primary State server, 2 = to secondary State server, 10 = internal Callback association. If this is about XLSTATE association it should be set to 1	Yes	Yes
ASSOC#n:DIAMETER=0	1 = This association receives DIAMETER protocol		
ASSOC#n:IW_GROUPS=1	0 or more comma separated IW_GROUPS for this association (to which IW groups it belongs to, values 0-19). For associations STATE_SERVER=1 it should be empty; Default value is empty if STATE_SERVER is a number other than zero, else the default value is 1		
ASSOC#n:RRBE_SINGLE_DISCONNECT=0	if 1, in RRBE send only a single Disconnect event request		
ASSOC#n:MULTIHOMED_MODE=0	if 1, accept packets with any src dst combination (including IP_PEER2 to IP_LOCAL1 or IP_PEER1 to IP_LOCAL2)		
ASSOC#n:HISTORY_PACKET_MAX_SIZE=500	History buffer for resend (outgoing) buffer size; Default value is 1700 if STATE_SERVER >0 else 500		Yes
ASSOC#n:HISTORY_PACKET_COUNT=2000	History buffer for resend (outgoing) number of buffers		Yes
ASSOC#n:QUIT_ON_SEND_HISTORY_FAILURE=1	If 1, quit if resend of history fails (requested packet not found in history)		
ASSOC#n:SMSFW_SERVER_ID=-1	SMSFW server ID		

2.1.6 XLSIG_PROXY.INI

Parameter	Description	Must set	Need restart
PROXY:COUNT=0	Number of PROXY:FILTER_GT_# entries		
PROXY:FILTER_GT_#=9999999999	Filter incoming messages by CalledGT (empty = match all)		
PROXY:FILTER_SK_#=-1	Filter incoming messages by SK (-1 = match all)		
PROXY:REWRITE_PROXY_GT_#=#	Rewrite proxy GT - CalledGT of the proxied IDP (empty = keep original)		
PROXY:REWRITE_PROXY_TT_#=-1	Rewrite proxy TT - CalledGT TT of the proxied IDP (-1 = keep original)		
PROXY:REWRITE_PROXY_SK_#=-1	Rewrite proxy SK - SK of the proxied IDP (-1 = keep original)		
PROXY:GT_0=<in_CalledGT>[,<out_CalledGT>[,<out_CalledTT>]]	Describe input CalledGT to be proxied, optionally define specific out CdGT and TT; OBSOLETE FROM 2022-09-27. PROXY:GT_ is now PROXY:FILTER_GT_		
GLB:PROXY_TT=0	Called TT for proxied messages		
GLB:PROXY_GT=123456789	CalledGT for proxied messages		



Parameter	Description	Must set	Need restart
PROXY:PROXY_EXCEPTION_PREFIX_COUNT=0	Number of PROXY:PROXY_EXCEPTION_PREFIX_# entries		
PROXY:PROXY_EXCEPTION_PREFIX_0=-	For proxied IDP, if B number begins with this prefix, send continue instead of proxying		
MONITOR:COUNT=0	Number of MONITOR:GT_# entries		
MONITOR:GT_0=-	CalledGT for monitor mode processing (don't send a reply to IDP)		
MONITOR:COUNT_PC=0	Number of MONITOR:PC_# entries		
MONITOR:PC_0=0	Destination Point Code for monitor mode processing (don't send a reply to IDP)		
MONITOR:COUNT_SERVICE_KEY=0	Number of Service keys specified for monitor mode (TCAP traffic)		
MONITOR:SERVICE_KEY_0=0	Service Key for monitor mode processing (don't send a reply to IDP)		
MONITOR:SERVICE_KEY_REPLY_TCAP_END=0	1 = enable TCAP End replies (after 5 second delay) on monitor TCAP traffic		

2.1.7 XLSIG_SIP.INI

Parameter	Description	Must set	Need restart
GLB:SIP_COUNT=0	Count of SIP associations (associations for Callback)		Yes
GLB:SIP-I_SK_ALGORITHM=1	1 = SIP-I messages with Called number beginning with E..., decode service key from the number, 0 = don't		
GLB:SIP-I_COUNT=0	Count of SIP-I associations (associations for receiving calls, eg. INVITE etc.)		Yes
GLB:SIP-I_USE_GLB_PREFIX=0	1 = for redirect prefix Redirect number with SIP-I_GLB_PREFIX, 2 = advanced method		
GLB:SIP-I_GLB_PREFIX=00	Prefix value for redirect		
GLB:SIP_ALLOWED_PREFIX=*	MSISDN filter for Callback Active Check SIP call		
GLB:SIP_OWN_ADDRESS=127.0.0.1	Own IP address	Yes	Yes
GLB:SIP_OWN_ALIAS=127.0.0.1	Own alias		
GLB:SIP_OWN_PORT=5060	Own port	Yes	Yes
GLB:SIP_PEER_ADDRESS=127.0.0.1	Peer IP address	Yes	
GLB:SIP_PEER_PORT=5060	Peer port	Yes	
GLB:SIP_VIA_ADDRESS=127.0.0.1	Via address for SIP call and OPTIONS		
GLB:SIP_VIA_PORT=5060	Via port for SIP call and OPTIONS		
GLB:SIP_REDIRECT_IP_ADDRESS=127.0.0.1	Unused		



Parameter	Description	Must set	Need restart
GLB:SIP_TEST_NUM=0123456789	From number for SIP call and OPTIONS	Yes	
GLB:SIP_OPTIONS_TO_NUM=7910111111	Where to send OPTIONS (heartbeat) to	Yes	
GLB:SIP_DISPLAY_NAME=TRUNKGROUP	Association display name	Yes	
GLB:SIP_DEFAULT_SK=99	Unused		
GLB:SIP_PROCESSING_METHOD=1	Unused		
GLB:SIP-I_OWN_ADDRESS=127.0.0.1	Own IP address	Yes	Yes
GLB:SIP-I_OWN_PORT=5060	Own port	Yes	Yes
GLB:SIP-I_PEER_ADDRESS=127.0.0.1	Peer IP address	Yes	
GLB:SIP-I_PEER_PORT=5060	Peer port	Yes	
GLB:SIP-I_VIA_ADDRESS=127.0.0.1	Via address for OPTIONS		
GLB:SIP-I_VIA_PORT=5060	Via port for OPTIONS		
GLB:SIP-I_REDIRECT_IP_ADDRESS=127.0.0.1	Redirect IP used if SIP-I_PROCESSING_METHOD=2 instead of Peer IP address		
GLB:SIP-I_TEST_NUM=0123456789	From number for OPTIONS	Yes	
GLB:SIP-I_OPTIONS_TO_NUM=7910111111	Where to send OPTIONS (heartbeat) to	Yes	
GLB:SIP-I_DISPLAY_NAME=TRUNKGROUP	Association display name	Yes	
GLB:SIP-I_DEFAULT_SK=99	SK to use if SK not specified in SIP message		
GLB:SIP-I_PROCESSING_METHOD=1	1 = BASE method, 2 = VARIANT1 (RedirectIP etc.)		
GLB:SIP-I_IDENT_METHOD=0	if 1 read SK from Contact field (number, tgrp, trunk_context)		
GLB:SIP-I_PROXY_MODE=0	if 1 enable Proxy mode (and read more parameters), don't send replies, forward packets		Yes
GLB:SIP-I_PROXY_OWN_HOSTNAME=	if set use this hostname (besides own address) when doing substitutions and removals in SIP packets when proxying		
GLB:SIP-I_PROXY_OWN_ADDRESS=127.0.0.1	Proxy connection (peer 2) our address		Yes
GLB:SIP-I_PROXY_OWN_PORT=5060	Proxy connection (peer 2) our port		Yes
GLB:SIP-I_PROXY_PEER_ADDRESS=127.0.0.1	Proxy connection (peer 2) their address		
GLB:SIP-I_PROXY_PEER_PORT=5060	Proxy connection (peer 2) their port		
GLB:SIP-I_IVR=0	if 1 this trunk is used for proxying calls to IVR		Yes