

ConSEL PLUS – Architecture Overview

ConSEL PLUS

System version: 7.x

Document version: 1.0



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1 Basic topology





2 Dispatcher console

Windows x64 operating system hardware with installed ConSEL client application:

- default installation folder: "{Program Files}\Aksel\ConSEL",
- main executable file: "ConSEL.exe",
- shortcut: on common desktop and group start menu are created during installation,
- general settings location: "HKEY_LOCAL_MACHINE\SOFTWARE\Aksel\ConSEL",
- user settings location: "HKEY_CURRENT_USER\SOFTWARE\Aksel\ConSEL".

Main executable is native binary (no additional framework dependencies as .NET, JVM). Application/installer does not integrate with operating system in any other way than copying files/shortcuts to installation folder and using listed above registry keys (no class registration etc.). Application not using any other storage place than installation folder.





3 Radioserver

Windows x64 operating system hardware with installed ConSEL server application:

- default installation folder: "{Program Files}\Aksel\ConSEL",
- main executable file: "SckClient.exe",
- configurator executable file: "ConfClient.exe",
- settings location: "HKEY_LOCAL_MACHINE\SOFTWARE\Aksel\SckClient".

Main executable is native binary running as system service with description: "Aksel – ConSEL SckClient" (no additional framework dependencies as .NET, JVM). Manually registration as a system service can be done by executing main executable with params "/install" or "/uninstall".

Operating system integrations/interference:

- service register itself in operating system firewall inbound rules
- service adds routing for MOTOTRBO network (12.x.x.x,13.x.x.x,14.x.x.x) if not present and data services are enabled and MNIS in tunnel mode chosen.

Processes	Performance	Users Details	Services				
Name	~	PID	Description	Status	Group		
ConSEL	SckClient	756	Aksel - ConSEL SckClient	Running			
Consen	tUxUserSvc		ConsentUX User Service	DevicesFlow			
Consen	tUxUserSvc_e251	15	ConsentUX User Service_e2515	DevicesFlow			
CoreMe	essagingRegistra	r 1564	CoreMessaging	LocalServiceN			
Credent	tialEnrollmentMa	ana	CredentialEnrollmentManagerUserSvc				
Credent	tialEnrollmentMa	ana	CredentialEnrollmentManagerUserS				

Figure 2 - Task Manager view





🔍 Services				_		×
<u>File Action V</u> iew <u>H</u> elp						
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Name	Status	Startup Type	Log On As	Description		^
ActiveX Installer (AxInstSV)		Disabled	Local System	Provides User	Account C	Cont
Aksel - ConSEL SckClient	Running	Automatic	Local System	ConSEL radio/	'data serve	ır.
🖄 Aksel - Live Logger Server	Rupping	Automatic	Local System			> [×]
Extended Standard						

Figure 3 - System Services view

Windows Defender Firewall with	Advanced Security										- 0	×
ile Action View Help												
• 🔿 🙍 📷 🗟 🚺 🖬												
Windows Defender Firewall with	Inbound Rules											
Cutbound Rules	Name	Gro	Profile	Enabled	Action	Override	Program	Local Address	Remote Address	Protocol	Local Port	Remo
Connection Security Rules	COM+ Network Access (DCOM-In)	CO	All	No	Allow	No	%system	Any	Any	TCP	135	Any
Nonitoring	COM+ Remote Administration (DCOM-In)	CO	All	No	Allow	No	%system	Any	Any	TCP	RPC Dyna	Any
	🔇 ConSEL - radio/data server		Public		Allow		C:\Progr	Any	Any	TCP	Any	Any
	SconSEL - radio/data server	- 110	Public	Yes	Allow	No	C:\Progr	Any	Any	UDP	Any	Any
	Core Networking - Destination Unreacha	Cor	All	Yes	Allow	No	System	Any	Any	ICMPv6	Any	Any
	Core Networking - Destination Unreacha	Cor	All	Yes	Allow	No	System	Any	Any	ICMPv4	Any	Any
	Score Networking - Dynamic Host Config	Cor	All	Yes	Allow	No	%System	Any	Any	UDP	68	67
	Ocore Networking - Dynamic Host Config	Cor	All	Yes	Allow	No	%System	Any	Any	UDP	546	547
	Core Networking - Internet Group Mana	Cor	All	Yes	Allow	No	System	Any	Any	IGMP	Any	Any
	🔮 Core Networking - IPHTTPS (TCP-In)	Cor	All	Yes	Allow	No	System	Any	Any	TCP	IPHTTPS	Any
	🔮 Core Networking - IPv6 (IPv6-In)	Cor	All	Yes	Allow	No	System	Any	Any	IPv6	Any	Any
	Ocore Networking - Multicast Listener Do	Cor	All	Yes	Allow	No	System	Any	Local subnet	ICMPv6	Any	Any
	Core Networking - Multicast Listener Qu	Cor	All	Yes	Allow	No	System	Any	Local subnet	ICMPv6	Any	Any
>	<											>

Figure 4 - Windows Firewall configurator view





4 Communication ports

Console connects with radioserver over IP network. Default listening ports opened by radioserver are:

- TCP 5590 map service port
- TCP 5591 configuration service port
- TCP 5592 remote reports service port
- TCP 5593 event service port
- TCP 5596 system logging port

Default ports used by radioserver modules are:

Module (00):

- TCP 5595 radio control service port
- TCP 5505 voice recorder service port
- UDP 5594 voice streaming service port

Module (01):

- TCP 15595 radio control service port
- TCP 15505 voice recorder service port
- UDP 15594 voice streaming service port

Module (02):

- TCP 25595 radio control service port
- TCP 25505 voice recorder service port
- UDP 25594 voice streaming service port

Console opens listening UDP ports for incoming voice audio stream from radioserver. Default port for first radio resource is UDP 5594. For next radio resources incrementation of base port number are used. If wanted port is busy next is used. it is not necessary to configure exceptions in the console system operating firewall.





5 Data files

Radioserver storing data in dedicated data files (sqlite3 format) in installation folder:

- "SckClient.cdt" console configurations data file
- "SckClient.cov" radio coverage data file
- "SckClient.dbl" system journal data file
- "SckClient.dt0" location reports data file
- "SckClient.evt" events data file
- "SckClient.rej" recorder data file
- "SckClient.tma" messages data file

Module (00) stores data in main folder, next modules stores data in subfolders: "mod01,mod02,..."

New empty data files are created automatically if missing.

6 Data files backup

Backup of data files are created in "backup" subfolder of installation folder. Default settings are: make backup every night, keep two last backups.

Backup files are fully usable data files and can be restored using radioserver configurator tool or manually copied as a replacement of original data files.

