FarSync® X.25 Developers Toolkit

A Developers Toolkit for the FarSync X.25 adapter and XOT product range

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A comprehensive Developers Toolkit included with your FarSync X.25 adapter and XOT software products to allow your application to use APIs to X.25, XOT, HDLC and ISO Transport on Linux and Windows. The Toolkit includes:

- **Documented working sample programs for Linux and Windows, including in C, Java, Visual Basic and Delphi, including .NET samples. Source code from these samples can be used to fast-track your development process**

- **Comprehensive set of API manuals with function call definitions and helpful advice on the best way to utilise the various interfaces**

- **Source code for the Linux drivers and API libraries**

- **Multi-port Line Monitor and a Line Statistics application**

- **Free email and telephone assistance to the application developer using the APIs**
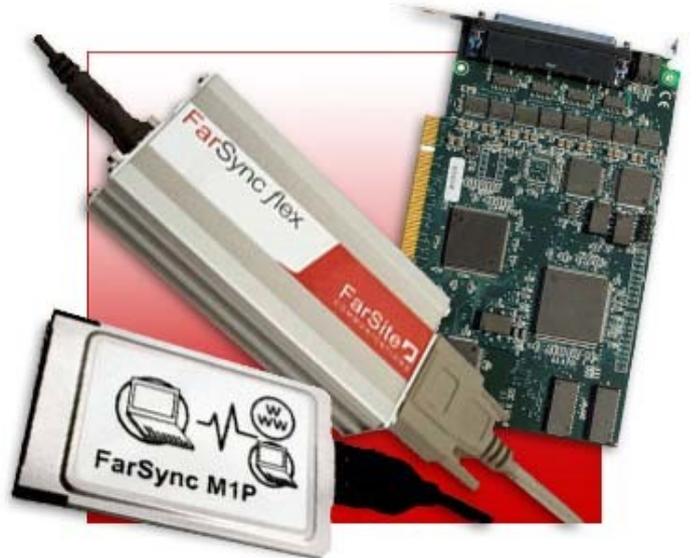
The APIs available for Application Development

Application developers have a choice of APIs for X.25, ISO Transport and accessing HDLC (LAPB). An API selector guide is provided to assist the developer in choosing the most appropriate interface for the requirement.

Sockets API - X.25, XOT - Supported on Windows and Linux

The Sockets API is extremely popular as a simple, easy to use API to access TCP/IP communications networks. The Sockets support for the FarSync X.25 adapters retains this ease of use and also allows the special features of X.25, XOT and ISO Transport classes 0 to 3 to be accessed. The Sockets API is available on Windows and Linux for 32 and 64 bit applications.

Sockets on Windows: The FarSync Windows Sockets interface is WinSock2 compliant, it supports standard AF_ISO / ISOPROTO_X25 sockets used by a number of applications, such as MS-Exchange. It also supports an alternative address family, AF_X25, to allow easy porting of applications between Windows and Linux.

Access to XOT, X.25 and ISO Transport is available from this API.

The FarSync Sockets API is compatible with the Microsoft defined X.25 Sockets API. Applications written to use the Microsoft X.25 Sockets API will work with the FarSync product.

Applications developed in most programming languages including Visual Basic, Delphi, C++ and .NET applications can use the Sockets API to the FarSync X.25 adapters and FarSync XOT Runtime software.

Sockets on Linux: The FarSync Sockets implementation is compatible with the BSD Sockets interface.

It is easy to convert applications written for TCP/IP to instead use X.25 as the transport mechanism. In many cases the only change required is to the parameters provided when the socket is created to reference the X.25 address family and protocol. Multi-threaded applications are supported.

Access to X.25 and XOT is available from this API.

Java API - X.25, XOT- Supported on Windows and Linux

The Java API allows applications written in Core Java Software (J2SE) and Enterprise Java Software (J2EE) easy access to the functions and features of X.25 offered by the FarSync X.25 adapters.. Full documentation and sample applications are provided.

NCB API - X.25 and ISO Transport - Supported on Windows and Linux

A legacy API is supplied to maintain compliance with older X.25 cards, access to ISO Transport and X.25 is provided from Windows and Linux. Use not recommended for new applications.

Line Monitor and Network Statistics Utilities

The product includes a multi-port line monitor on Windows and Linux, an invaluable tool particularly when testing new applications and commissioning new systems. Line traces can be displayed in real time, recorded (including in pcap format) and reviewed with full protocol decoding, comments can even be inserted in the trace to assist later analysis. See the sample screens below.

Wireshark can also be used to trace X.25 line activity in real time.

A connection status and statistics utility is also provided. It's functions include the display of the channel connection status and statistics of user data, packet and frame types passed over the X.25 lines.

Sample Windows FSMON line monitor screen showing an X.25 call request and call accept followed by data transfer.

```
                                   fstest@SUSE-x64-71:~/Desktop                          _ □ x
File  Edit  View  Terminal  Tabs  Help
FarSync Monitor frame decode, version 1.2, 2nd October 2008

(Taking input from STDIN)


FarSync Monitor Frame Dump

Version=1.00
Port=sync7
Time=26-Jun-2009 11:16:39


Event Time        -> Ad P R S Cmd   LCN   Packet type        Data

 80 16:39.160 Tx 01 P 5    RR
 81 16:39.160 Rx 03 P 5    RR
 82 16:39.160 Rx 01 F 5    RR
 83 16:39.164 Tx 03 F 5    RR
 84 16:44.312 Rx 03    5 5 INFO  1123  Incoming Call
                                       Called Address=123456
 85 16:44.312 Tx 01    6 5 INFO  1123  Call Accept
 86 16:44.340 Rx 01    6    RR
 87 16:48.116 Rx 03    6 6 INFO  1123  Data pR=0 pS=0      48
 88 16:48.116 Tx 01    7 6 INFO  1123  RR    pR=1
 89 16:48.116 Tx 01    7 7 INFO  1123  Data pR=1 pS=0      48
 90 16:48.120 Rx 03    0 7 INFO  1123  RR    pR=1
 91 16:48.136 Tx 03    0    RR
 92 16:48.588 Rx 03    0 0 INFO  1123  Data pR=1 pS=1      65
 93 16:48.588 Tx 01    1 0 INFO  1123  RR    pR=2
 94 16:48.588 Tx 01    1 1 INFO  1123  Data pR=2 pS=1      65
 95 16:48.592 Rx 03    2 1 INFO  1123  RR    pR=2
 96 16:48.616 Tx 03    2    RR
 97 16:49.116 Rx 03    2 2 INFO  1123  Data pR=2 pS=2      6c
 98 16:49.116 Tx 01    3 2 INFO  1123  RR    pR=3
 99 16:49.116 Tx 01    3 3 INFO  1123  Data pR=3 pS=2      6c
100 16:49.120 Rx 03    4 3 INFO  1123  RR    pR=3
```

Sample Linux FSMON line monitor output showing an X.25 call request and call accept followed by data transfer

The X.25 Developers Toolkit supports APIs to all the products listed in this table			
Products supported	**Product Code**	**Windows API**	**Linux API**
FarSync Flex X25	FS6100	Yes	Yes
FarSync X25 T1U	FS6140	Yes	Yes
FarSync X25 T2U	FS6240	Yes	Yes
FarSync X25 T4U	FS6440	Yes	Yes
FarSync X25 T4E+	FS6446	Yes	Yes
FarSync X25 TE1	FS6170	Yes	Yes
FarSync X25 T2Ue	FS6250	Yes	Yes
FarSync X25 T2Ee	FS6256	Yes	Yes
FarSync X25 T4Ue	FS6450	Yes	Yes
FarSync X25 T4Ee	FS6456	Yes	Yes
FarSync X25 M1P v2	FS6133	Yes	No
FarSync X25 T2U-PMC-F	FS6280	Yes	Yes
FarSync X25 T2U-PMC-R	FS6281	Yes	Yes
FarSync XOT Runtime for Linux	FS9506	No	Yes
FarSync XOT Runtime for Windows	FS9511	Yes	No

FarSync X.25 Developers Toolkit Summary	
X.25 / XOT APIs on Linux	**Sockets API,** easy to use, available for 32 and 64 bit applications, provides access to X.25 and XOT features, recommended for most developments.
	Java API, for X.25 and XOT specially developed for Java applications (J2SE, J2EE), quick and easy to use.
	NCB API A legacy API to maintain compliance with older products only.
X.25 / XOT APIs on Windows	**Sockets API,** easy to use, available for 32 and 64 bit applications, provides access to XOT and X.25 features, recommended for most developments.
	Java API, for X.25 and XOT, specially developed for Java applications (J2SE, J2EE), quick and easy to use.
	NCB API A legacy API to maintain compliance with older products only.
ISO Transport API on Linux	**NCB based API,** providing access to all the features of the ISO Transport support. Can operate simultaneously with access to X.25.
ISO Transport API on Windows	**Sockets API,** providing access to all the features of the ISO Transport support. Can operate simultaneously with access to X.25.
	NCB based API, legacy API providing access to all the features of the ISO Transport support. Can operate simultaneously with access to X.25.
Reference manuals	X.25/XOT Sockets API manuals, Java API documentation, ISO Transport API manuals, NCB API manuals.
Sample programs	Large number of example applications for driving the various APIs.
Source code	Included for Linux drivers, the Linux API libraries and sample C and Java applications
Customer support	**We provide free email and telephone assistance to the application developer using the API as part of the package** provided when a FarSync X.25 adapter is purchased.

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