



# Traffix OpenBloX Diameter Stack

## Instant Diameter Connection

Traffix OpenBloX Diameter Stack is a full implementation of the IETF Diameter (RFC 3588) standard and supports all other Diameter standards and interfaces as specified by 3GPP, 3GPP2 and ETSI, providing full coverage for all Diameter interfaces.

The Diameter stack consists of both the mandatory and optional parts of the Diameter protocol. It offers a full client, server and agents Diameter functionality and supports the entire set of Diameter protocol interfaces.

OpenBloX Diameter is one of the market most mature Diameter implementation first released in 2006 and since then gained the trust of thousands of engineers worldwide. OpenBloX Diameter is the only full Diameter solution on the market, offers all the mandatory and optional Diameter specification requirements, as well as Diameter agent support, giving it unmatched conformance, reliability and integration abilities.

## Highlights

- ⇒ **Market Benchmark** - OpenBloX Diameter Stack is the market benchmark for Diameter and is the market's most popular and broadly deployed Diameter protocol stack with more than 100 vendor users and hundreds of deployments.
- ⇒ **Dual License** - The OpenBloX Diameter is available as a dual licensed Diameter stack, available in both Open Source version and as a commercial Diameter stack.
- ⇒ **Full Technology Coverage – Java, C++, J2EE** - The OpenBloX Diameter Stack is available in both pure Java and C++ - giving you a solution for both your Java and C++ environments, with one Diameter solution across the organization and consistent API and methodology. The OpenBloX Diameter stack is also available with a full J2EE Java Diameter extension.
- ⇒ **Carrier Grade** - The OpenBloX Diameter stack is adapted to specific Telco's NGN needs and is built with a robust and scalable architecture and fast transaction handling achieving excellent performance.
- ⇒ **Over 55 Diameter Interfaces Supported** - OpenBloX Diameter Stack supports over 55 Diameter interfaces, based on the main standard bodies for mobile (3GPP), Wireline (ETSI), Cable and WiMax industry. OpenBloX also supports many of the non standard interfaces and vendor flavors, such as SCAPv1, SCAPv2.
- ⇒ **Performance** - OpenBloX Diameter was designed for telecom robust needs, and offers unmatched performance, meeting telecom solutions developer's requirements, serving thousands of transactions per second.

## OpenBlox Diameter Stack

OpenBlox is a portable, extensible and standards-based protocol stack provided in native C++ and Java that enables a straightforward and cost effective embedding of Diameter support. The OpenBlox Diameter Stack architecture follows the Diameter layers model defined in RFC 3588.

### Connectivity layer

- ⇒ Peer discovery
- ⇒ Peer liveness and disconnection
- ⇒ Peer capabilities negotiation
- ⇒ Transport (+selection process)

### Types of Diameter nodes

- ⇒ Diameter clients and servers, Request and Answer originators
- ⇒ Diameter agents, Request and Answer forwarders and

### Session layer

- ⇒ Support for stateful or stateless sessions
- ⇒ Session termination from both client and server side

### Routing layer

- ⇒ Intelligent routing and redirection of service requests
- ⇒ Diameter node roles include relay, proxy and translation

### Application development framework

- ⇒ Basic request/answer applications
- ⇒ Fully extensible protocol definition allowing new application Definition, new messages within a given application. new attributes within a given message

## OpenBlox Benefits and Differentiators

The OpenBlox Diameter Stack architecture delivers the following advantages:

- ⇒ **Simplicity** – OpenBlox provides an extensive set of API's that simplify the business logic development and offer full control and flexibility, for the development of any application using the Diameter base or any of the specified standard interfaces. OpenBlox can be easily extended by customers to support additional or proprietary interfaces.
- ⇒ **High Availability** – OpenBlox architecture address the demanding requirements for high availability by providing watchdog monitoring of peer connections, failover and failback mechanism and support for 1:1 redundancy.
- ⇒ **Documentation** – OpenBlox is supplied with extensive programmer and reference guides and samples.
- ⇒ **Maintainability** – OpenBlox provides built-in operations and management interfaces to enhance the overall maintenance of the product, including logging, tracing, provisioning and statistics mechanisms.
- ⇒ **Performance/Scalability** – OpenBlox robust and multithreaded architecture is designed to take advantage of Multi-Core, Multi-CPU systems and facilitates software component distribution and provides maximum flexibility in application design and implementation.
- ⇒ **Interoperability** – OpenBlox is the market leading solution, used by hundreds of customers worldwide and offer any Diameter interface, from any specification or release, with fully tested compliance.

## Diameter Conformance

Diameter Base Protocol (IETF RFC 3588)	Zh interface (3GPP TS 29.109, TS 33.220)	S7c interface (3GPP TS 32820, TS 23402)
Diameter Commands for 3GPP (IETF RFC 3589)	Zh' interface (3GPP TS 29.109, TS 33.220)	S9 interface (3GPP TS 23.203, TS 29.215)
Diameter Credit Control App (IETF RFC 4006)	Dz interface (3GPP TS 29.109, TS 33.220)	S13 interface (3GPP TS 29.272)
NASREQ Support (IETF RFC 4005)	Zn interface (3GPP TS 29.109, TS 33.220)	S13 interface (3GPP TS 29.272)
EAP Support (IETF RFC 4072)	Zn' interface (3GPP TS 29.109, TS 33.220)	Gxa interface (3GPP TS 23.203)
Diameter Mobile IPv4 (IETF RFC 4004)	Dw interface (3GPP TS 29.234)	Gxb interface (3GPP TS 23.203)
Diameter SIP Application (IETF RFC 4740)	Wa interface (3GPP TS 29.234)	Gxc interface (3GPP TS 23.203)
Sh interface (3GPP TS 29.328, TS 29.329)	Wd interface (3GPP TS 29.234)	SWa interface (3GPP TS 23402)
Dh interface (3GPP TS 29.328, TS 29.329)	Wx interface (3GPP TS 29.234)	SWd interface (3GPP TS 23402)
Rf interface (RFC 4006, 3GPP TS 32.225, TS 32.299)	Wm interface (3GPP TS 29.234)	Gq' interface (ETSI TS 183.017)
Ro interface (RFC 4006, 3GPP TS 32.225, TS 32.299)	Wg interface (3GPP TS 29.234)	E2 interface (ETSI TS 283 035)
Re interface (3GPP TS 32.296)	Pr interface (3GPP TS 29.234)	E4 interface (ETSI TS 283 034)
Cx interface (3GPP TS 29.228, TS29.229)	Wm interface (3GPP TS 29.234)	E5 interface (ETSI TS 282 004)
Dx interface (3GPP TS 29.228, TS29.229)	Gmb interface (3GPP TS 29.061)	Re interface (ETSI TS 183 060)
Rx interface (3GPP TS 23.203, TS 29.214)	Mz interface (3GPP TS 29.061)	A3 interface (ETSI TS 282 004)
Rx+ interface (3GPP TS 32820, TS 23.203, TS 29.214)	Bi interface (3GPP TS 32.225)	A4 interface (ETSI TS 282 004)
Gx interface (3GPP TS 29.212, TS 23.203)	MM10 interface (OMA MM10 interface)	Rr interface (03196-NGN-R3)
Gy interface (3GPP TS 32.29, TS 32.251, RFC 4006)	Ty interface (3GPP2 TSG-X X.S0013-014)	Rw interface (ITU Q.3303.3)
Gz interface (3GPP TS 32.240, TS 32.295)	Tx interface (3GPP2 TSG-X X.S0013-013)	Rs interface (ITU Q.3301)
Gq interface (3GPP TS 29.209)	S6a interface (3GPP TS 29.272)	
Gi interface (3GPP TS 29.061)	S6b interface (3GPP TS 23402)	
SGi interface (3GPP TS 29.061)	S6d interface (3GPP TS 29.272)	

### Operating Systems Platform

- ⇒ Solaris™
- ⇒ Linux
- ⇒ Windows XP

### Supported Languages

- ⇒ C++
- ⇒ Java SE platform 5 and 6, Java EE 5
- ⇒ J2EE™ Connector 1.5 (JSR 112)

### Transport and Security

- ⇒ TCP & SCTP Transport (IPv4 & IPv6)
- ⇒ TLS Security
- ⇒ CMS

## Contact Us

Traffix Systems  
 Fortis House  
 160 London Road  
 Barking, Essex IG11 8BB

Email [info@traffixsystems.com](mailto:info@traffixsystems.com)  
 Phone: +44 (0)20 8214 1384  
 Website [www.traffixsystems.com](http://www.traffixsystems.com)