

## For Immediate Release

### CONTACT:

Aron Trauring  
Zoteca  
2472 Broadway, Suite 195  
New York, NY 10025  
Tel: +1 (212) 905-3261  
Fax: +1 (212) 439-4178  
email: aronst@zoteca.com  
<http://www.zoteca.com/>

## Twisted Middleware Framework Gains IT Acceptance as it Reaches 1.0 Milestone

New York, NY — October 17, 2002 — What does Internet gaming have to do with space flight? A new middleware framework that was originally developed for Internet gaming applications is now finding its way into organizations such as NASA, Masters of Branding and major IT organizations around the world. The Twisted framework, used for building sophisticated asynchronous, event-driven, applications for distributed network environments, has just hit 1.0 status. Users are already raving.

The brainchild of Matthew Lefkowitz, who goes by the moniker of Glyph, Twisted was originally developed for building distributed Internet-based gaming environments. “Massively multiplayer games are among the most complex systems deployed on the Internet today,” says Glyph. “While purpose-built business application software at most integrate two or three simultaneous processes — e.g., managing inventory while processing payments — games need to integrate ten or more distributed processes running in parallel: combat, crafting, a virtual economy, housing, and vehicles, among others.” From the beginning, Glyph released Twisted as an open-source development project. It soon became obvious that by solving the hard problems of Internet gaming, Glyph had come up with a bleeding-edge solution for tough IT development in the Internet environment. Itamar Shtull-Trauring, Zoteca’s Chief Technical Architect, came across Twisted when he was looking for a back-end for Zoteca’s secure data-sharing platform. “I investigated all the alternatives,” says Itamar. “It was immediately apparent that by using Twisted I could develop our distributed back-end in a quarter of the time with many-more features out of the box.” Itamar soon joined Glyph as one of the lead programmers in the Twisted open-source project, and added Twisted to Zoteca’s base offerings.

Twisted is a sophisticated event-driven network framework that provides extremely powerful, scalable and flexible enterprise application integration capabilities. At the core of Twisted is its network layer which can be used to rapidly integrate any existing protocol as well as model new ones. Whenever the need arises to develop a new protocol, the asynchronous, multiplexed and two-way remote object protocol (ROP) can be used to quickly implement it. Because the ROP is used with object-level abstractions, changes can be made easily, and new features added, without having to deal with the design restrictions and application development complexities of a custom protocol.

Out of the box, Twisted supports a large number of service protocols: HTTP, FTP, SMTP, LDAP, DNS, SOCKSv4, SSH, IRC, telnet, POP3, AOL’s instant messaging and more. This allows developers to use these protocols immediately, without having to spend time re-implementing them. In addition, Twisted can talk to multiple, industry standard DBMS. It also can be used to communicate with COM servers and to control and integrate with standard Windows applications (Word, Excel, etc.).

Unlike other frameworks, that are designed to address a specific domain — email, Web sites, Web services — Twisted is designed to support both multiple frameworks and multiple protocols at the same time. Thus, Twisted can be used to implement web sites, web services, email servers, or instant

messaging servers. Moreover, these services can all run in the same process. Among the services already implemented with Twisted are:

- distributed hash tables
- distributed web applications
- distributed web servers
- remote document batch processing
- real-time web chat
- graphical chat clients
- IM information bots
- protocol proxies
- notification agents
- massively multiplayer games

As Twisted approached 1.0 status, IT managers around the world began to use it in critical projects. Stephen Waterbury, of NASA's Goddard Space Flight Center (<http://www.gsfc.nasa.gov/>), has this to say: "My team is developing a modular application to integrate CAD/CAE/CAM tools and data and to enable collaboration among distributed teams of engineers working on NASA projects. We have selected Twisted as our framework because of its pluggable, asynchronous protocols, support for multiple interfaces and protocols per service, integration with PostgreSQL, and just generally excellent layered architecture."

Masters of Branding (<http://www.mastersofbranding.com/>) develops Radio Frequency Identification (RFID) applications for Fortune 500 companies. Bob Ippolito, CTO, reports: "We use Twisted as the networking core for all of our client and server RFID software." Ippolito likes Twisted ease of use and broad multi-protocol support: "It was by far the easiest framework to develop with, debug under, and extend for our purposes to support protocols such as SOAP, HTTP, and Macromedia Flash-compatible XML Sockets. The API and event model are both very well thought out and has accommodated all of our networking needs from database-heavy server software on Linux to (py)OpenGL visualization applications on win32."

Ippolito also stresses Twisted's portability: "The ease and power of Python and Twisted really showed through when we took one of our applications developed in and for Linux and ported it to run as a Windows NT service in less than day." Ippolito would definitely recommend others adopt Twisted: "New users to the framework will not only be impressed by the power of the software, but also that the developer/user community responsible for it are incredibly helpful."

Adelux, based in Paris, France, develops custom Internet applications such as portals, network security tools, communication-related programs, and software that leverages other systems. "We discovered Twisted 10 months ago, and now it is a key element of our development strategy." notes Luc Stepniewski, Head Engineer. "We have successfully used Twisted on several projects, of very different problem domains."

Stepniewski stresses the scalability of Twisted in large-scale applications: "We developed a highly scalable real-time application for customer support, which serves web-based clients as well as clients implemented in any of the many protocols supported by Twisted. Twisted was also used to develop targeted proxies for various applications supporting more than 15,000 users. Twisted handles the charge with no problem."

When asked about the future of Twisted at Adelux, Stepniewski responds: "We intend to continue using Twisted on upcoming projects, especially since integrated support for databases and new services are being added very quickly. We found Twisted to be powerful, comprehensible, well documented, and backed by a good helpful community. We'll use it on our next products for sure!"

Finally: "Twisted is an invaluable framework that permits obscenely fast prototyping and iterative development of game systems, and is more stable and robust than any internal system with which I've worked!" says Brian Urbanek, Senior Designer at Ninjaneering, a game development studio.

With Version 1.0 freezing the fundamental APIs, and promising added stability and robustness, Twisted is poised to become the leading middleware framework of its class.

A white-paper on Twisted may be found here:

<http://www.zoteca.com/wp/zbefull.pdf>

For more information about commercial support for Twisted contact:

**GLYPH LEFKOWITZ** is the Twisted Matrix Labs project leader. Glyph is an independent consultant, helping organizations develop and deploy Twisted and other open-source solutions from departmental to worldwide scale. In spear-heading the Twisted project, Glyph leads a team of 19 developers and manages all parts of the development process, from high-level design to remote object protocol and low-level event loop programming. Glyph is a published author, and has written several papers on the design and implementation of the Twisted framework. For more information visit:

<http://www.twistedmatrix.com/glyph/>

**ZOTECA** offers a software workbench for the rapid development of efficient, safe, robust and scalable applications used in distributed, networked environments. Zoteca combines open source technologies with our unique extensions, offering powerful frameworks for information technology in the Internet age. The Zoteca Workbench has three main components. Our base toolkit is the Zoteca BackEnd (ZBE), our commercially supported version of Twisted, a middleware framework for rapidly developing asynchronous, multi-protocol, event-driven, distributed applications. Using the ZBE, extended by patent-pending technology, Zoteca offers Data Sharing frameworks (ZDS) which provide Reliable, Available, Private and Secure ("RAPS") data sharing. The third component, Zoteca Application Tools (ZAT), is a set of open-source, object-oriented programming tools, that together with the ZBE and ZDS make for an unrivaled distributed programming workbench. Zoteca offers support and consulting services for all components of our software workbench, including ZBE (Twisted), Python and Zope. Zoteca also offers application toolkits and products based on the workbench. For more information visit:

<http://www.zoteca.com/>

**TWISTED MATRIX LABORATORIES** is the virtual home of the Twisted open source development community. For more information or if you would like to get involved visit:

<http://www.twistedmatrix.com/>