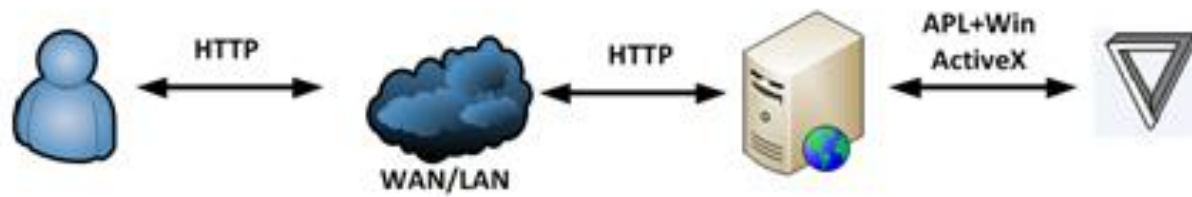# APLNext Application Server

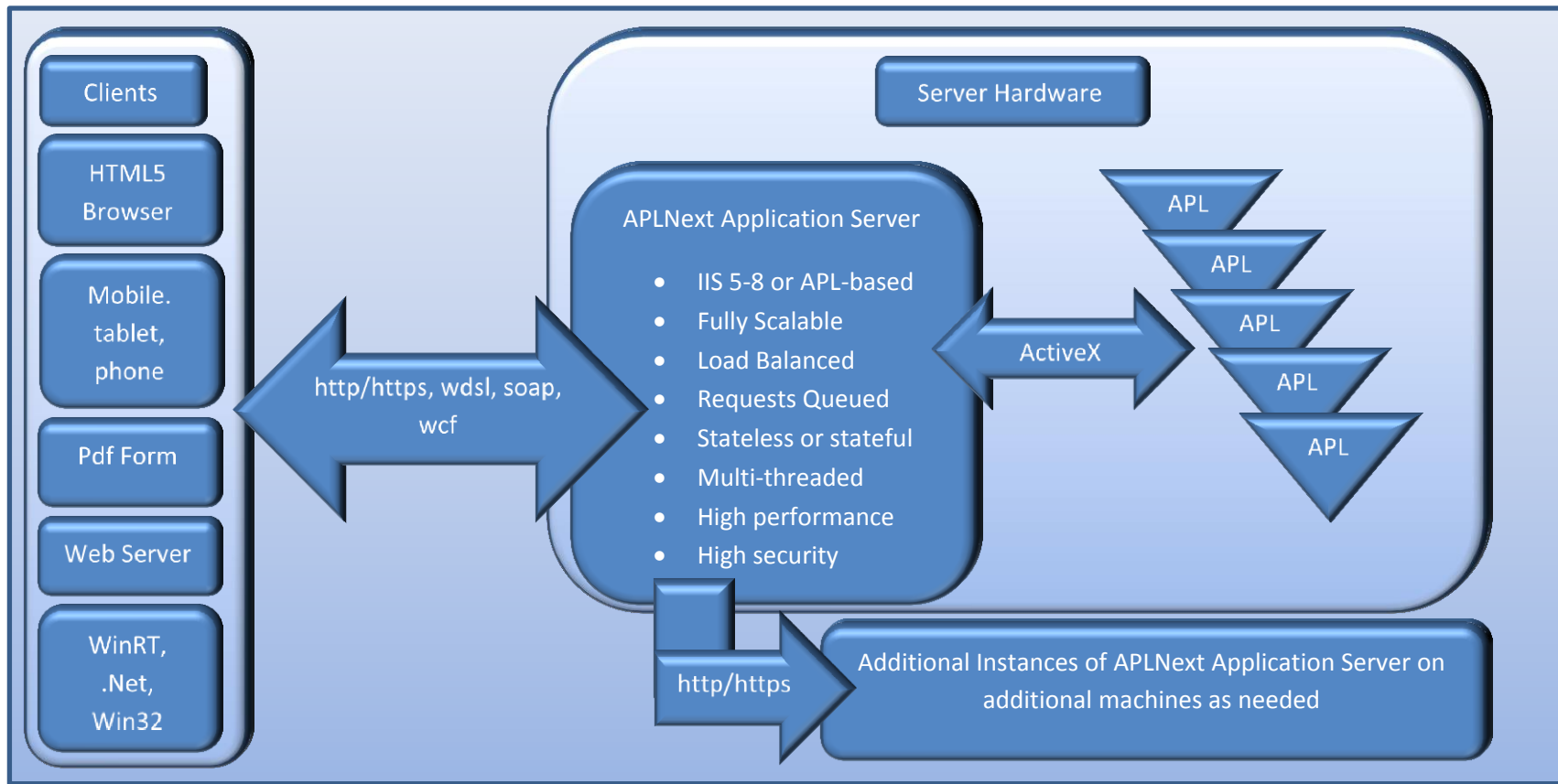## What is APLNext Application Server?

APLNext Application server is software which can be installed on a Windows workstation or server to securely expose APL+Win functions as web service methods.

How can APLNext Application Server be used?

APL+Win-based web services can be used to support public Internet and private intranet web sites and services for real-time or batch application processes. APL+Win-based web services can be used by:

- Browser-based human clients using html, pdf
- Native code on pc or mobile devices
- Server-to-server clients under program control
- Locally-installed WinRT, .Net or Win32 applications

Where is APLNext Application Server Deployed?

- The APLNext Application Server product was developed in 1998, became publicly available in 2002 and has been continuously refined and enhanced to provide outstanding reliability, security and performance.

- The APL2000 team of experts has successfully and economically assisted customers in all phases of the development of web-enabled application systems including:
  - Re-purposing of existing APL-based business rules and algorithms
  - Design and creation of an appropriate client GUI
  - Testing, deployment and tuning of the application as an industry-standard web service

- Production implementations of APLNext Application Server has performed flawlessly for many years supporting application systems such as airline reservations, business graphics and data distribution, corporate accounting consolidation, valuation and reporting of retirement benefits and liabilities, U.S. federal government technical reporting and insurance company product support information.

- The *browser-based interface* interacts with APLNext Application Server using the http or https protocol and can respond with documents in html, pdf, xls, xlsx, etc. formats, record sets in xml format or file downloads in any format.

- The *APLNext WebTransfer* class provides programmer access to APLNext Application Server from WinRT, .Net or Win32 clients or servers.

- When APLNext Application Server is hosted in Microsoft IIS, the APL+Win functions are securely exposed as industry-standard WSDL, SOAP or WCF web services.

Main Features of APLNext Application Server

- If desired, APLNext Application Server can be hosted in Microsoft Internet Information Services (IIS version 5-8). In this case IIS provide:
    - Industry-standard configuration and deployment methodology familiar to IT technicians
    - Scalable web service infrastructure with HTTP-based load balancing and intelligent request routing
    - Dynamic caching and compression
    - Rich diagnostic tools
    - Centralized web farm management

- Easily scalable. When client requests vary, the pool of APL+Win instances on a server is automatically adjusted within programmer-determined parameter values. In addition, APLNext Application Server supports a dynamic cascade of instances so that when a server's capacity is reached, client requests are automatically transmitted to the next available instance of APLNext Application Server.

- Client processing requests are automatically queued by APLNext Application Server

- Stateless or stateful client-server interaction is supported by APLNext Application Server. In stateful operation, a group of processing requests from a single client are bound together as a single transaction. In stateless operation, each processing request of a client is handled independently.

- Multi-threaded. APLNext Application Server maintains independent processing threads for each instance of APL+Win on a server. Multi-threading means that server-side hardware can be efficiently used to satisfy multiple processing requests from multiple clients virtually simultaneously.

- APLNext Application Server has proven to be very high performance software able to handle thousands of requests per second with virtually no failed requests compared to other web server software.

- APLNext Application Server supports the https (secure socket) transmission protocol when secure communications are necessary.

What are the benefits of APLNext Application Server

- Client Benefits
    - Lightweight client environment
    - Reduce or eliminate client-side software installation and update
    - Supported on all client hardware and operating systems
    - Use server resources instead of local computer resources
    - Access to high-quality server-side hardware and software
    - Access applications anywhere at any time
    - Reduce the need for high-powered client hardware
    - Facilitate sharing and analysis of data by a broad user base

- Developer/Maintainer/Vendor Benefits
    - Easily incorporate existing complex business rules and algorithms developed in APL
    - Expand the application system's customer base
    - Reduce the marginal cost of adding customers
    - Provide centralized maintenance of hardware
    - Provide centralized installation and update of application software
    - Utilize hardware more efficiently
    - Track and identify application system usage trends and peak processing times
    - Introduce scalable hardware and software
    - Options to monetize software and services

Some additional features of APLNext Application Server

- Active logging of server activity and client requests
- Simplified, server-side monetization of client request fulfillment
- Programmer-customizable timeouts, headers, document types and error messages
- Efficiently utilize programmer-specified, multiple processors on the server side
- Each instance of APLNext Application Server can support multiple APL+Win functions, workspaces and applications
- Configuration is easy using the APLNext Application Server Configuration dialog or via xml-formatted text
- Programmer-controlled stateless or stateful processing of client requests
- Automatic queuing of client request for reliability and maximum throughput
- Includes full documentation and programming examples
- Community forum for APLNext Application Server programmers
- Versions available for
    - Hosting in Microsoft IIS
    - Hosting independently of Microsoft IIS
    - Desktop version for design, development and testing of web service applications

Web-enabling an existing APL+Win-based application system

- Separate the APL+Win functions which support the application system business rules and algorithms from the application system's existing user interface, if any.
- Configure these APL+Win functions with:
  - Applicable explicit results and arguments suitable for the web service methods to be exposed
  - Appropriate exception handling
  - Appropriate transaction logging for security, accounting and monetization
- Prepare a suitable client user interface to collect user input, make transaction requests and receive service results, e.g.:
  - Html web pages
  - ASP.Net web pages
  - Pdf-format forms
  - Native code on local workstation or mobile device
  - Server-to-server communication using wsdl/soap, wcf or APLNext WebTransfer
- Deploy APLNext Application Server on appropriate Windows operating system hardware, possibly hosted in Microsoft IIS v5-8.
- Server-side hardware can be virtual or physical
- Configure APLNext Application Server to use the APL+Win functions in APL+Win workspaces as web service methods

More Information

- [Contact APL2000](#) about APLNext Application Server
- Try a [live example](#) of an APLNext Application server application with [comments](#)
- [Beginner's guide](#) to APLNext Application Server
- APLNext Application Server [documentation](#) is available
- [Sample project](#) using an html or pdf forms client GUI and the APLNext Application Server
- APLNext Application Server [forum](#)