

CYGNET[®] DESIGN PRINCIPLES

An Introduction to ASUNO (“As-You-Know”)

C Y G N E T

♥ a Weatherford Company

The foundation of *CygNet*'s powerful real-time Enterprise Operations Platform, is a highly efficient, network optimized computing architecture. This architecture is based on five core design principles, all of which focus on maximizing speed, reliability, scale, maintainability, and efficiency. Adherence to these design principles over *CygNet*'s years of development has produced one of the fastest, most scalable operation platforms in the marketplace today.

These design principles are summarized below and are referred to with the acronym ASUNO (pronounced “as-you-know”).

#1 ACTIVE CLIENTS - PASSIVE SERVICES

User workstations, or “Clients”, send request messages to *CygNet* “Services” that are installed on servers. Only Clients may initiate requests to Services (that is, Services do not initiate requests to Clients). Clients decide when information from a Service is needed and only then do they initiate requests for information. In this way, unnecessary Service communications traffic is eliminated. In addition, adherence to this principle results in a simpler messaging format and simpler error recovery from communications faults.

#2 SESSIONLESS

The method by which *CygNet* Clients communicate with *CygNet* Services is referred to as sessionless communications. This means that once a request is sent by a Client and the associated response is received from the Service, all resources associated with the connection are released and made available for other Clients. The Client is delegated the responsibility to maintain application context (like which page a user received last). Sessionless communication provides greater user accessibility, faster response times, more efficient bandwidth utilization, and less interruption to the overall *CygNet* system due to network error conditions.

#3 UTILIZE THE CLIENT

The collective power of the desktop computers in a corporation is many times greater than the servers in the computer rooms. *CygNet* is designed to utilize the power of these desktop machines in such a way that additional users added to the system bring more processing power to the system instead of providing additional burden to central services. The result is increased transaction speeds, virtually unlimited scale, and greater communications efficiency.

ASUNO

FIVE CORE PRINCIPLES

#1 Active Clients – Passive Services

#2 Sessionless

#3 Utilize the Client

#4 Network is “Golden”

#5 One Request Produces One Response

“Adherence to these design principles... has produced the fastest, most scalable software in the marketplace today.”

#4 THE NETWORK IS “GOLDEN”

The network is the most critical and precious resource of a corporate computer system. Excessive and wasteful use of this resource negatively affects real-time operations systems and often impacts critical business applications sharing the network. To ensure efficient network utilization, CygNet® messages are optimized to send only the data that is necessary for each operation being performed. Data communication is further increased by compressing the message data prior to transmission to insure the shortest possible message size. No communication bandwidth is wasted and performance is greatly enhanced since modern network equipment such as routers and firewalls handle *CygNet's* small messages very quickly.

#5 ONE REQUEST PRODUCES ONE RESPONSE

All communications between *CygNet* Clients and Services involve one request message from a client followed by one and only one response from a service. This exchange of messages is an autonomous operation that can be quickly and easily repeated if the client determines that it is necessary due to a data error or communication interruption. Application of this principle, in conjunction with the application of the other four principles described above, provide one of the industry's simplest, fastest, and most efficient exchanges of data through today's communication devices and media.

CygNet has consistently applied these ASUNO design principles from its initial design through today's feature-rich product line. The end result has been the creation of customer systems that are unmatched in their scope, performance, reliability, and functionality—saving companies time, money, and valuable resources.