

Overview

- What is it?
 - ▶ An application workload simulation tool for measuring and modeling the performance of the network infrastructure, end-to-end
 - Can model and simulate the client, or the client and server
 - Generates real traffic on the network
 - Can simulate large numbers of end-users
- Ability to model the impact of various types of workloads on communications servers and networks
 - ▶ Evaluate the impact of a change **before** the change is deployed in a production environment
 - Do network components need to be upgraded to meet performance objectives?
 - Is the existing network infrastructure sufficient?
 - Is this the right communications model for an application?
- Multiplatform support
 - ▶ z/OS and OS/390 V2 R10
 - ▶ Linux on zSeries
 - ▶ Linux on Intel



Two Modes of Operation

■ Client/Server Mode

- ▶ Generates real network traffic between AWM client and AWM server
- ▶ Can help analyze network impact of a new application prior to application development/deployment
- ▶ Focuses on performance measurements of end-to-end network communication paths
 - Application-specific bottlenecks eliminated
- ▶ Allows modeling of common application workload patterns, including SSL
 - Connection-Intensive Workload: Connect/Request/Response (CRR), e.g. Web-like traffic
 - Interactive workload: Request/Response workload (RR), e.g. Telnet traffic pattern
 - Streaming data: Bulk data transfer (STREAMS), in either direction, e.g. FTP traffic
- ▶ Supports SNA and TCP/IP

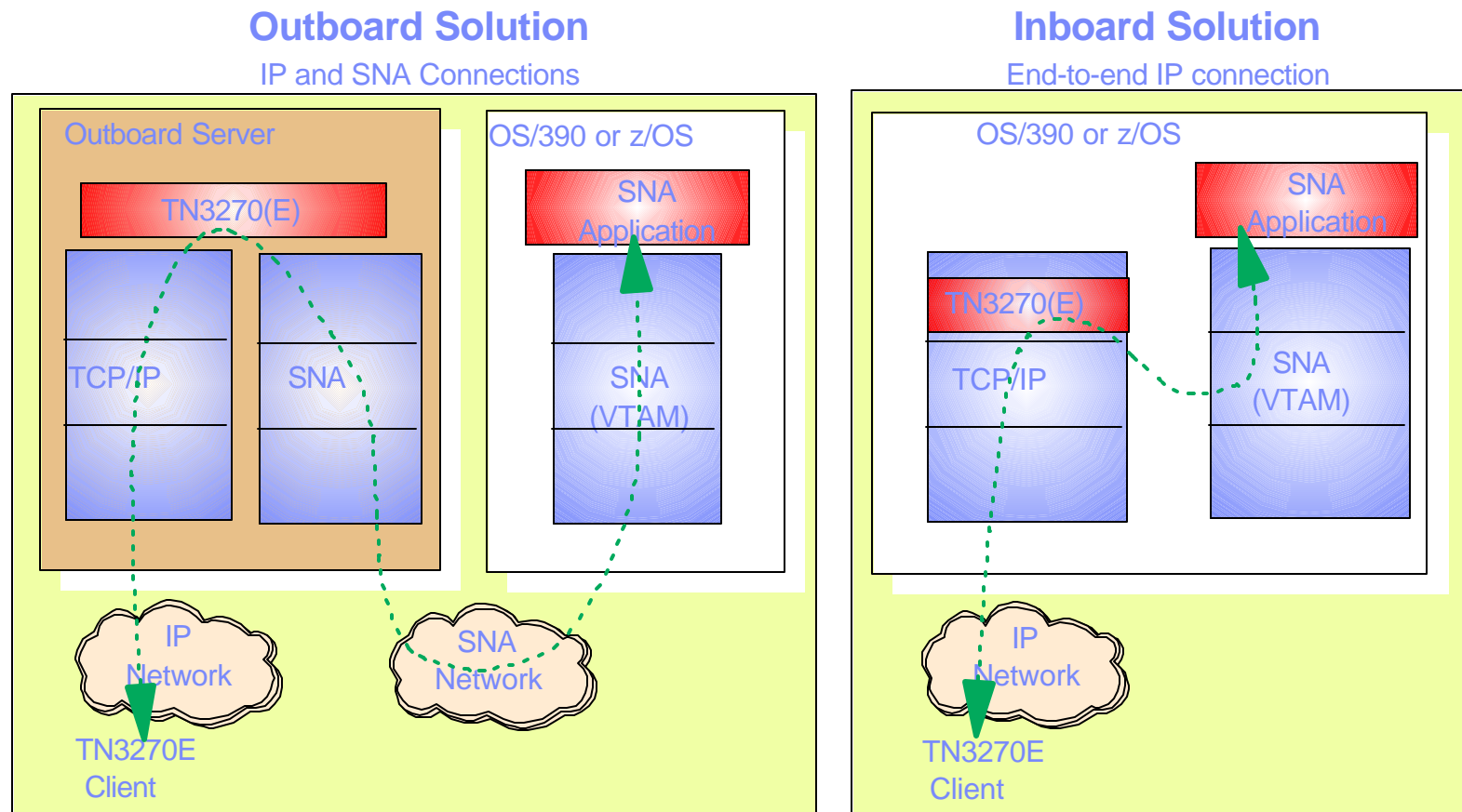
■ Application Client Mode

- ▶ Generates real network traffic between AWM client and standard TCP/IP server applications
- ▶ Allows testing of existing application with new client workload conditions
 - Number of clients, rates of requests, etc.
- ▶ Supports FTP, HTTP, HTTPS, CICS Sockets, DNS, DHCP, SAP ICLI, SMTP, TN3270, TN3270E, TN3270E SSL, Express Logon
- ▶ Includes performance characteristics of a real server application
- ▶ Supports TCP/IP



Example 1: TN3270(E) Server Placement

Which is better: Inboard or Outboard TN3270(E) Server?

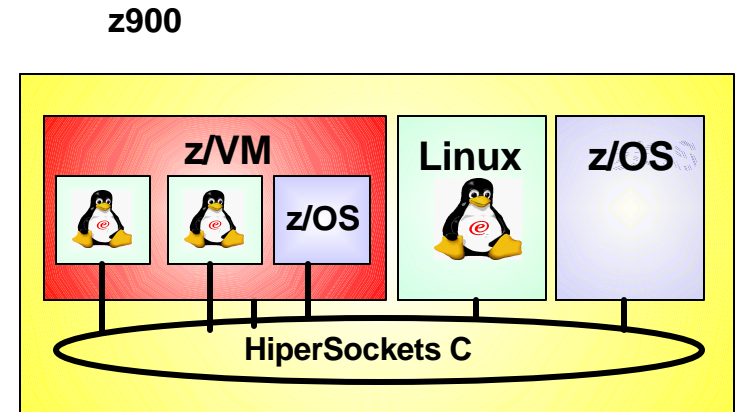


- ▶ Use Application Client Mode to simulate a large number of TN3270(E) clients/activity
- ▶ Run against inboard and outboard server
- ▶ Determine cost/performance/scalability characteristics of each solution

Example 2: Server Consolidation with HiperSockets

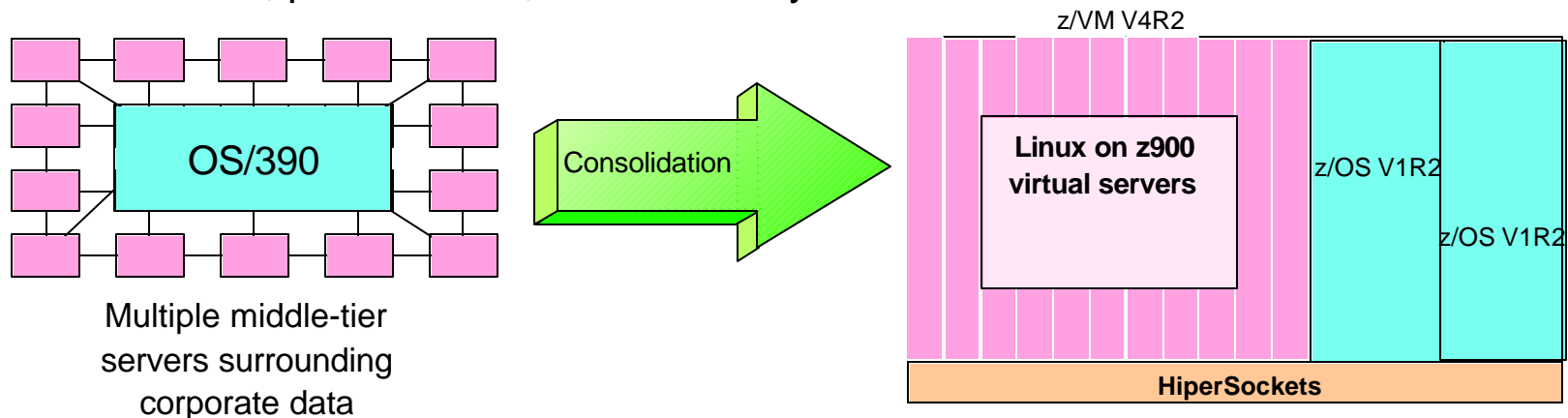
HiperSockets Overview

- ▶ High speed, low latency, any-to-any TCP/IP network within a z900 processor
- ▶ Among virtual servers and LPARs (z/OS, Linux, and z/VM)
- ▶ Cost savings - no adapters, network boxes, or cabling
- ▶ Transparent to applications



How will my applications perform over HiperSockets vs.. existing external network?

- ▶ Use Client/Server mode to simulate existing application workloads
- ▶ Run on traditional external network and on z900 processor with HiperSockets
- ▶ Determine cost, performance, and scalability characteristics of each solution



Additional Usage Scenarios

- **Enterprise Extender**
 - ▶ Determine if IP network can handle new SNA traffic
- **Secure Sockets Layer (SSL) or Virtual Private Network (VPN)**
 - ▶ Determine impact of implementing SSL in an application or VPN for all communications
- **SAP R/3 consolidation on zSeries**
 - ▶ Evaluate the performance characteristics of consolidation
 - Evaluate network communications between SAP R/3 Applications servers on Linux for zSeries and a database server on z/OS
- **Policy / Quality of Service Modeling**
 - ▶ Prioritize some network traffic over others
 - ▶ Model and measure the effect of a QoS policy prior to deployment
- **Load Balancing**
 - ▶ Assist with capacity planning - how many target servers are needed?
 - ▶ Where to put load balancer - on the network or on zSeries?
 - ▶ Analyze effect on end-user response time
- **System and Network Connectivity Changes**
 - ▶ Migrating from Channel Attached routers to OSA Express
 - ▶ Router upgrades
 - ▶ Protocol changes, etc.



Complementary Products

- IBM Application Workload Modeler
 - ▶ Infrastructure testing (networks, systems, communications servers)
 - ▶ Use to create representative application workloads on the network
 - ▶ Generates real network traffic
 - ▶ Simple configuration
 - ▶ Test network load before application is developed or before usage of an existing application is increased

- IBM TPNS or IBM Workload Simulator for z/OS and OS/390
 - ▶ Application testing
 - ▶ Scripting support allows testing of applications
 - ▶ Measurements captured by other tools on the server

- IBM WebSphere Studio Workload Simulator for z/OS and OS/390
 - ▶ Web application testing
 - ▶ GUI based
 - ▶ Real-time graphing

For More Information

- <http://www.ibm.com/software/network/awm/index.html>
 - ▶ Product publications
 - ▶ Product brochure
 - ▶ Technical presentation (CMG 2002)
- awm@us.ibm.com

