

Anritsu

# PureFlow™

## WSX series

TCP Acceleration Appliance

NF7601A

PureFlow WSX



10 Gigabit WAN Acceleration and Traffic Shaping  
High speed data transfer over long distances.

# Enable high speed data transmission over long distances.

Unique TCP Acceleration Engine creates a reliable network despite latency and loss.

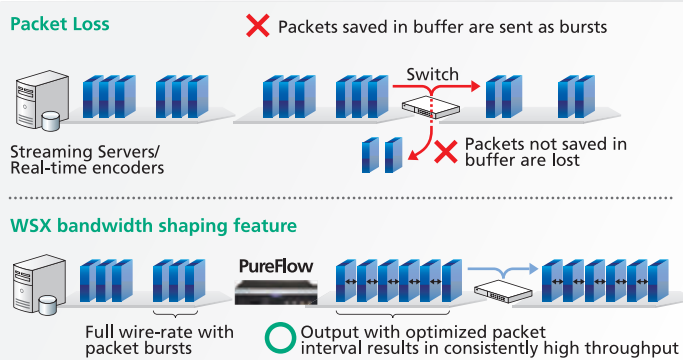


## Decrease the transfer time of large files by up to 70%

PureFlow Series utilizes a high precision bandwidth shaping engine to ensure efficient bandwidth control and maintain communication quality.

Packet loss and latency reduce the transfer rate because of the congestion control features inherent to the TCP protocol. PureFlow WSX was specifically engineered to optimize TCP traffic flows despite packet loss and latency. PureFlow GS series has an established reputation for superior bandwidth shaping. PureFlow WSX creates a stable network link and maintains reliable communications under adverse network conditions. It typically takes about 2 hours to transfer a 20GB file between Tokyo and New York, and sometimes it takes over 10 hours to complete depending on the server. It is impossible to handle data in real time with such a long transfer time, but with PureFlow WSX it takes only 4 minutes to complete, achieving a significant reduction in the transfer time of large files.

● Superior bandwidth shaping engine eliminates bursts and packet loss.



### + TCP "WARP" Acceleration Engine

● 20GB Data transfer between Tokyo and New York

Without PureFlow

2 hours<sup>\*1</sup>

With PureFlow  
Standard specification  
(Maximum bandwidth 1Gbit/s)

4 minutes<sup>\*2</sup>

\*1: Acknowledgment Time:340milliseconds, calculated with a TCP window size 1MB

\*2: Calculated on the basis of in-house transfer bandwidth measurement





Over the past decade, the proliferation of server virtualization and numerous types of cloud services has substantially increased the utilization of Enterprise WAN links. With the globalization of corporate activities comes the rapidly increasing requirement to exchange high volumes of traffic across the WAN. Consequently, the influence of round-trip latency and nominal packet loss that typically occurs between geographically distant data centers contributes to a substantial decline in throughput and productivity.

### 3 TCP Responder – Application Server

Data transfer is completed by the WSX and sent to the server.

Server

Development Center  
New York

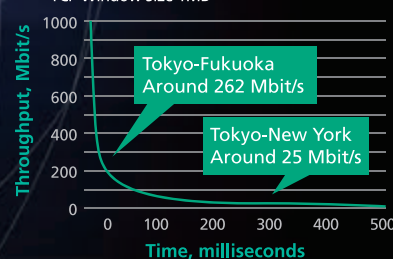
PureFlow WSX was developed by Anritsu Networks to ensure a stable 10Gbit/s high speed data link over long distances by significantly reducing the negative effects of round-trip delay and packet loss that frequently impede the performance of long distance WANs. By creating an optimized high performance data transfer environment, very large files can be transferred in a short amount of time as compared to unassisted transfers.

## WAN performance degrades over distance due to TCP inefficiencies.

TCP is one of the principal transport protocols in most IP networks. However, TCP throughput declines due to latency and loss in long distance networks. Even when using high bitrate WANs it is nearly impossible to fully use the capacity of the link due to TCP inefficiency.

### Throughput in relation to round-trip latency.

\*TCP Window Size 1MB



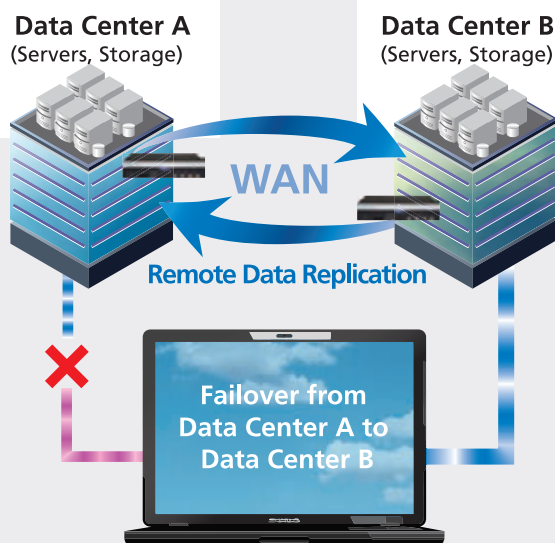
TCP throughput depends on distance. No matter how fast the line, the data transfer speed is limited by latency.

Loading...

## Use Cases: Data Replication

### Data Center with Cloud Services

Replication of production data over long distance for rapid disaster recovery and business continuance.



**RTO and RPO: Recovery in a targeted period ensuring prompt restoration of business services.**

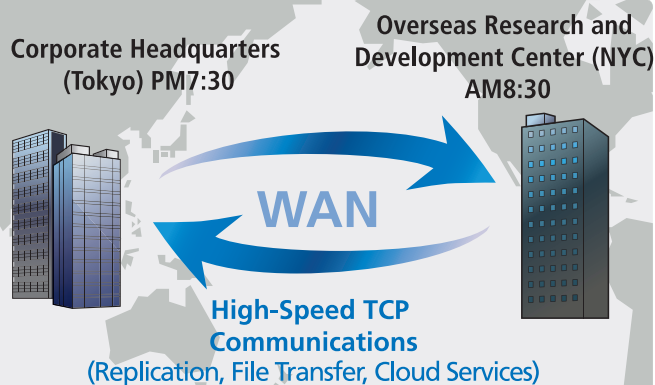
[RTO] Recovery Time Objective. The targeted duration of time within which a business process must be restored after a disruption.

[RPO] Recovery Point Objective. The maximum targeted period in which data might be lost from an IT service due to a major incident.

## Large File Transfer

Share large amounts of data between multiple locations over long distances.

Optimize global corporate networks to share large amounts of data between multiple locations around the world.



**Achieve maximum value and efficient utilization of contracted bandwidth**

How long would it take to transfer a 100GB file over a 100Mbps link? It could take over 9 hours due to the influence of latency. However, it only takes 2.5 hours using the PureFlow Traffic Accelerator. The file transfer would be completed by the starting time of work in New York when initiated at the close of business hours in Japan.



## ● Product Specifications

PureFlow Series		PureFlow WSX
Model		NF7601A *1
Controlled Bandwidth		10kbit/s to 10Gbit/s *2
Hierarchical levels		8 levels
Scenarios		4,096
Filter Rules		40,000
Interface	Network Ports	4 SFP+ / SFP ports 10GBASE-SR/LR, 1000BASE-SX/LX, 10/100/1000BASE-T
	Console Port	RS232 (EIA/TIA-232) (RJ45 connector type)
	CF Card Slot	CompactFlash storage cards (Compliant with "CF + and CompactFlash Specification Revision 4.1" by CFA)
	USB	USB 2.0 type A
	Ethernet Port	10/100/1000BASE-T
TCP acceleration	Maximum TCP session	100,000
	Compression	ZIP
SMB Protocol acceleration	Compliant Version	SMB 2.0.2, SMB 2.1
	MaximumSMB session	10,000
QoS Bandwidth Setting		Minimum guaranteed bandwidth, Maximum allowed bandwidth, Packet buffer size, Priority
Maximum Frame size	Network Ports	2,048 bytes or 10,240 bytes
	Ethernet Port	1,518 bytes
Operation Management	Configuration	CLI via serial console/telnet/SSH, RADIUS authentication, Web API, Web GUI, OpenFlow*3
	Management	CLI via serial console/telnet/SSH, SNMPv1/v2c/v3, Enterprise MIB, SYSLOG, Web GUI, OpenFlow*3
	Monitoring	Traffic monitoring by Monitoring Manager 2 *4
Other Special Function		Link down transfer function, Automatic switching between bidirectional appliances, etc.
Power Supply		AC100 V to AC127 V, AC200 V to AC240 V, 50/60 Hz ± 2 Hz
Power Consumption		180VA or less / 140W or less
Environmental Conditions	Operating Temperature	0 to 40°C / 32 to 104°F
	Operating Humidity	20 to 80% (noncondensing)
Dimensions		88 (H) 436 (W) 471 (D) mm *excluding protrusions
Weight		9.5 kg or less / 21 lbs or less
Options		Compact Flash card, SFP+ modules, SFP modules, Bandwidth License, FEC function License, OpenFlow function License, AC power cord
Safety		UL60950-1, CSA C22.2 No.60950-1-07, EN60950-1
EMC/EMI		VCCI-A, FCC-A, EN55022-A, RCM, JIS C 61000-3-2

\*1: The Traffic Acceleration License isn't included with the NF7601A. To use the Traffic Acceleration function, please purchase a separate

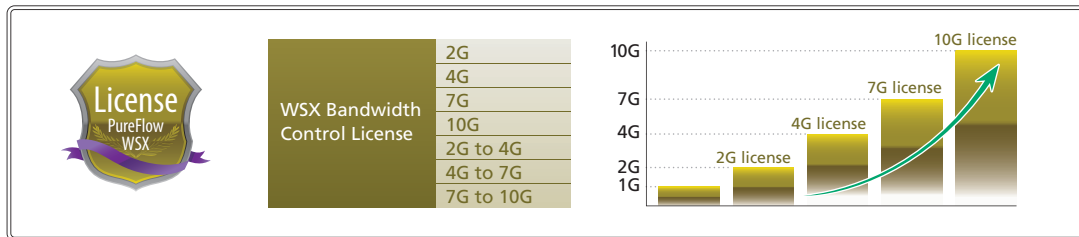
"Traffic Acceleration software license (NF7600-L201A)".

\*2: Base model bandwidth is limited to 1Gbit/s, and optional licenses are required to extend to 2Gbit/s, 4Gbit/s, 7Gbit/s or 10Gbit/s.

\*3: When setting and managing with OpenFlow, you need an optional license.

\*4: Optional monitoring software "Monitoring Manager 2 (NF7201A)" and server machine are required.

## ● Bandwidth Control License WSX



### PureFlow WSX Series



## PureFlow WSX

Bandwidth Control Appliance

### High Precision Bandwidth Control and Traffic Shaping

PureFlow WSX: A dedicated Bandwidth Control Appliance.

Eliminates burst traffic and provides QoS control for a variety of IP network applications and services.

**Anritsu** envision: ensure

## ANRITSU CO., LTD.

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

**Appliance Business Dept.**

Phone : \*+81 3 5320 3551

6-14-1 Nishi-shinjuku, shinjuku-ku, Tokyo