



## **iShared®** WAFS Performance Solutions

Packeteer® products help successful businesses securely accelerate, consolidate and control information at every location across the WAN. Let our Wide Area File Services (WAFS) solution help you dramatically improve file access performance for branch locations and consolidate servers with confidence.



Packeteer iShared solutions deliver WAFS, WAN optimization, virtual storage and branch office IT services. Unmatched at overcoming the barriers of latency, bandwidth and network reliability, iShared solutions solve the toughest enterprise-wide branch office IT issues — storage and server consolidation, application performance, collaboration and data protection — improving business productivity and cutting costs.

iShared solutions scale from highly-available data center clusters through large branch offices and down to single users. Offered in a range of implementation options — from drop-in appliances to software only — iShared solutions match any corporate IT policy.



**Consolidate and Collaborate at Business Speed**

### Premium Performance

Today's distributed workforce is only as good as its ability to collaborate and share customer-critical information across the WAN. Packeteer iShared solutions ensure a great user experience at every location through a family of scalable appliances and software that overcome Microsoft® file access performance problems and challenges for the branch office. With WAN optimization, TCP acceleration, caching and compression working in concert, iShared WAFS solutions can speed responses up to 357 times — and that's good for business.

### Ensure Data Integrity at the Branch

Business continuity is more than a buzzword: every IT department wants to ensure maximum uptime and reliability to their workforce, and security and integrity to data. iShared solutions help deliver on this promise by eliminating the data integrity risks associated with distributed files and applications. Remote users can continue working on files during WAN disruptions, and receive native Microsoft Windows® services — like domain controller and DHCP — locally from their iShared system. iShared solutions provide virtual storage that uniquely ensures file integrity by locking files between sites during saves and efficient distributed storage that benefits from centralized control.

### Data Store Encryption

Due to the increasing demands in data security, particularly in business sectors retaining sensitive information, a need for more secure data storage at remote branch locations is required. The iShared data store encryption feature provides a superior level of security to cached data housed on branch appliances, preventing compromise of sensitive data in the event of physical theft or decommissioning of appliances. This security feature also offers an effective way to ensure data is protected both in key generation and through a more complex authentication process. Encryption can be applied to both new hardware and existing appliances.

### CIFS Availability on WAN Disconnections

WAN disconnections and outages can disrupt CIFS operations for end users at branch offices to the extent of complete unavailability of CIFS services. The iShared solution ensures business continuity by providing complete optimized access to CIFS servers even in the event of WAN disconnections, allowing them to perform read-write operations on CIFS shares during WAN outages.

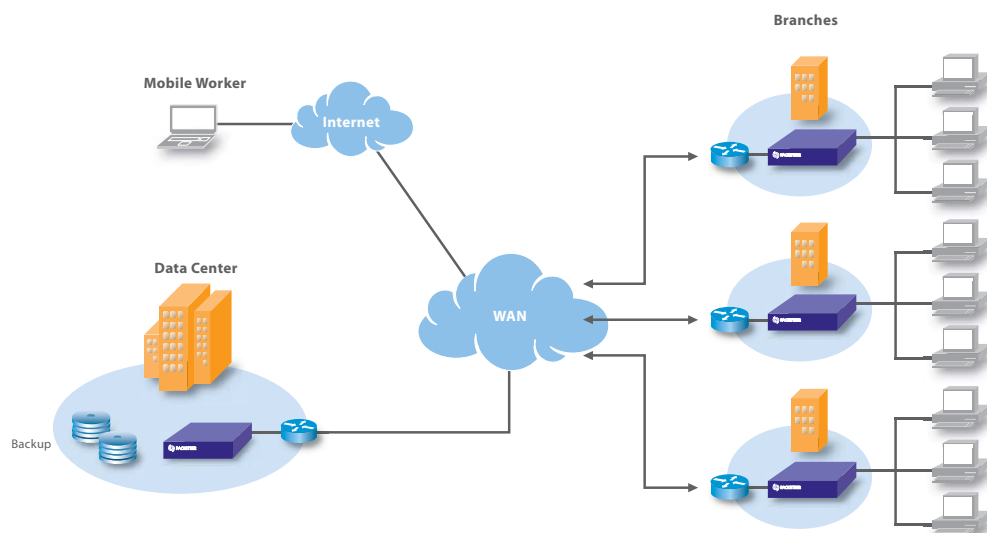
#### Accelerate over the WAN

Cut costs through centralized IT management

Increase ROI with lowered capital expenditures and bandwidth savings

Empower branch office users with LAN-like access to centralized servers and storage

Encrypted cache provides higher level of protection to data stored on branch appliances



iShared is an enterprise-class solution that connects remote and branch office users to improve WAN services to the data center and synchronizes their file operations. Deliver on the promise of server and storage consolidation without sacrificing performance or introducing risk.

## iShared Management System

The monitoring and management system for iShared appliances provides a full-fledged out-of-band management console and centralized reporting platform. The management server is available as software for Windows Servers and can also be co-located on iShared appliances for small size deployments. A management console is provided as client software that runs on Windows PCs.

The iShared Management System (iMS) is composed of three modules:

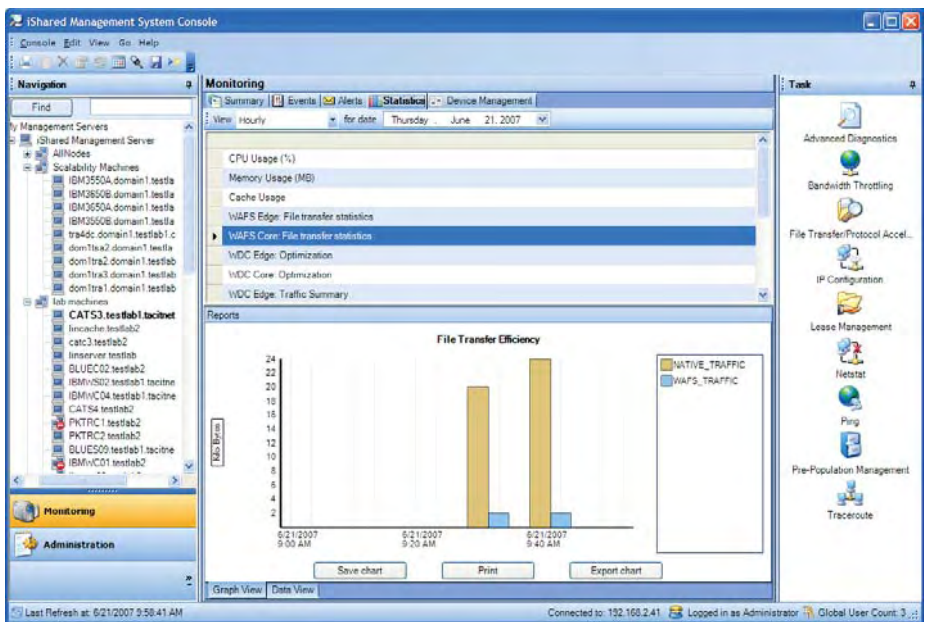
### iMS Console

A Windows-based software application that runs on a client PC and allows management functions to be performed on iShared and iShaper appliances using the iShared Management System. The iMS Console provides two distinct functions:

- Administration
- Monitoring

### iMS Agent

An application that runs on managed iShared and iShaper™ appliances and enables interaction with the iMS Server. The iMS agent performs health checks on the appliance on which it is running every ten minutes and reports the health status to the iMS Server.



iShared Management System Console

Name	Faults	CPU	Memory	File Transfer Efficiency(%)	Bandwidth Efficiency(%)
Honolulu	Offline	0	389013	0	0
Paris	Offline	0	317308	0	0
New York	Offline	0	465527	0	0
TacDelISC420	Offline	0	737171	0	0
ISWINCACHE	Offline	0	848940	0	0
ts\win2003\WO	Online	463	91	324231	0
murthy_deskto	Offline	0	14	887297	0
TMCDEV2k3.n	Offline	0	22	403804	0

iShared Management System Summary

### iMS Server

An application that maintains a relational database of iShared and iShaper appliance information and iMS configuration information. The iMS Server can support up to 250 active iMS agents.

## Flexible Software Availability

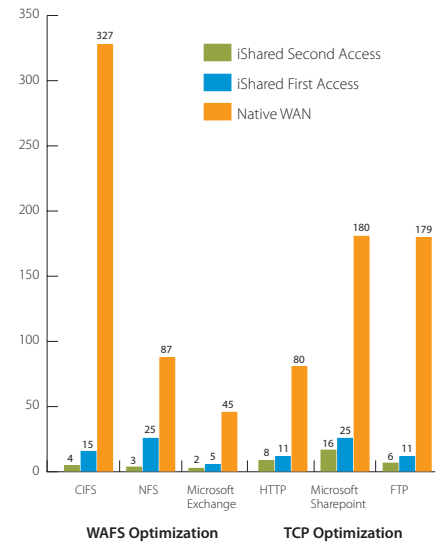
iShared FlexInstall is the software version of the product that readily installs on existing Windows servers at branch offices, enabling instant savings on capital expenditure and allowing for server consolidation benefits. iShared FlexInstall software ships with built-in evaluation license keys that streamline proof of concept product demonstrations and evaluation projects.

## Fast File Access, 100 percent Microsoft Compatible

Optimize application performance across the WAN while minimizing the amount of data traveling between the data center and branch offices — and make that data move faster. The industry's only 100 percent Windows-based platforms, Packeteer iShared solutions offer full support for end-to-end Microsoft security and seamless integration into any Microsoft-based IT infrastructure.

- WAFS optimization for real-time, read/write global access to shared files across the WAN
- TCP acceleration for reducing latency and bandwidth consumption and accelerating TCP-based applications (including HTTP, FTP, Microsoft SharePoint®, replication and backup)
- Drop-in appliance or software-based solution for Windows or Linux-based implementation
- High-availability features at the data center and branch offices for device failover and disaster recovery scenarios
- IT services at the branch office including print, domain controller, DNS/DHCP and software/application distribution
- Native integration with Microsoft Windows
- Centralized management

## iShared Performance Impact



All times in seconds.

All testing done on 15 MB files, except Microsoft Exchange (4 MB).

## iShared Benchmarks

Protocol	File Type	Operation	Native WAN	iShared First Access	iShared Second Access
CIFS	15 MB Microsoft Word Document	Open	327	15	4
		Save	715	24	—
	8 MB Microsoft Excel Sheet	Open	101	17	4
		Save	137	16	—
6 MB AutoCAD Drawing	Open	80	26	9	
	Save	153	11	—	
4 MB Microsoft PowerPoint Presentation	Open	154	18	3	
	4 MB Excel Attachment	Open	40	3	1
4 MB Microsoft PowerPoint Presentation		Open	45	5	2
	NFS	15 MB TAR File	Extract	87	25
Create			102	3	—
FTP	10 MB JPEG Image	Upload	122	64	3
	15 MB Microsoft Word Document	Download	179	11	6
Microsoft SharePoint	15 MB Microsoft Word Document	Open	180	25	16
		Save	232	18	—
	10 MB JPEG Image	Download	187	65	8
HTTP	5 MB Microsoft Word Document	Download	30	7	3
	15 MB Microsoft Word Document	Download	80	11	8

All times in seconds.

Tests conducted at T1 (1.54 Mbps) bandwidth, 80 ms latency.

Results have been compiled through laboratory testing and are for illustration purposes only.

Actual bandwidth savings and acceleration may vary for each customer.

### LAN-like Performance at the Branch

- Fast access to centralized or remote files via WAFS
- Slashes latency
- Optimizes CIFS, TCP, and speeds application performance

### Provide Branch Office IT Services

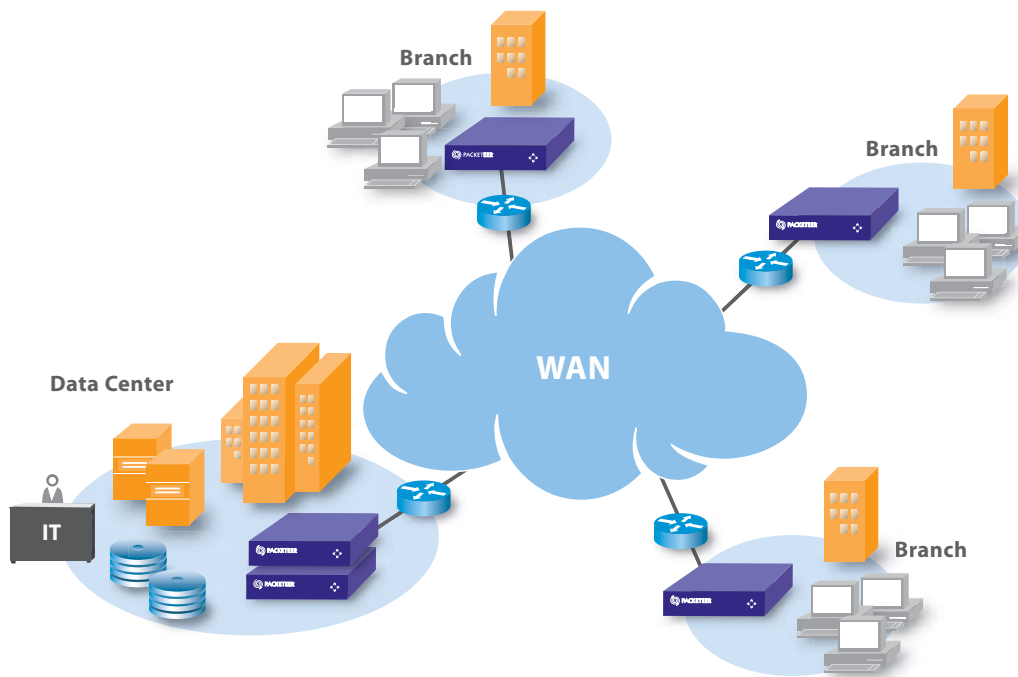
- Local handling of print services, domain controller, DNS/DHCP, SMS, etc.
- Virtual storage, IT services, WAFS, WAN optimization, and ECDN
- Single point of remote management for central administration

### Reduce WAN Traffic

- File-aware differencing, compression, and disk-based data reduction, pre-population & content distribution

### LAN-like Performance at the Branch

- Safe and scalable centralized storage
- “File-aware” distributed file system
- Unique file-locking ensures integrity during saves
- No per-site data mirroring at data center



### Your Partner in Success — Packeteer Support, Training and Certification

PacketCare is a comprehensive suite of service and support options designed to help you take a proactive approach to maintenance and prevent productivity loss. Multiple levels of service and support packages ensure there is an appropriate level of coverage available for your needs. Packeteer offers technical training on installation, configuration and day-to-day management of the Packeteer solution. A standard training program combined with two available levels of certification ensure that you get the maximum benefit from your investment.

For more information on iShared and other Packeteer products and solutions go to [www.packeteer.com](http://www.packeteer.com).

# iShared

## WAFS Performance Solutions



Features	
<b>WAFS &amp; WAN Optimization</b>	
Windows Integration and Compatibility	Windows Server 2003-based platform supports native CIFS protocol stacks, SMB signing, HiSec security templates and integration with Active Directory group policies.
WAFS Optimization	High-performance CIFS/NFS optimizations include single-instance storage caching, data streaming, read-ahead, file-aware differencing, compression, data aggregation and I/O clustering.
Dictionary-based Data Reduction	Pattern-matching algorithms achieve compression ratios of 100 to 1 or higher by eliminating redundant data transfers over the WAN.
TCP Latency Optimization	Protocol acceleration utilizes local acknowledgements, transparent WAN re-transmissions and large window sizes to enable maximum TCP throughput.
Data Protection	Distributed file system technology uses lock management and journaling techniques to protect remote users from stale data, write collisions, WAN outages and system failures.
Application-specific WAN Optimization	Extensions for Microsoft Exchange (MAPI attachment caching) and HTTP (static Web page caching) deliver faster response and improved bandwidth utilization.
Data Store Encryption	Encryption of all cached data located on appliances; Feature can be enabled on new and current appliances
CIFS WAN Outage/Disconnection support	Enhanced CIFS read-write support even during WAN disconnection; File-aware design allows remote users to continue working on their files during WAN disruptions, and access cached data during WAN outages.
Auto Generate DFS Links	Ready-to-use DFS services enables integrated roaming user support without requiring external DFS servers.
<b>Branch Office IT Services</b>	
Print Services	Local print services address branch office printing requirements, eliminating dedicated servers and reducing cost.
Domain Controller	Windows domain controller services enable faster branch logins and login support during WAN outages.
Network Services	DNS caching and DHCP server functions provide improved application performance and streamlined administration.
Software/Application Distribution	Optimized software and application distribution can be provided through integration with Microsoft SMS and leading application virtualization solutions, saving bandwidth and complexity.
<b>Management/Deployment</b>	
Central Management System	Centralized Performance/ Fault Monitoring; With consolidated reporting and charting it provides a full-fledged out-of-band management console.
Web-based Management	Web-based GUI reports on device connectivity, bandwidth savings, traffic composition, cache usage and appliance health. SNMP and e-mail alerts are also supported.
Advanced Configuration	Pre-population, bandwidth throttling and inclusion/exclusion lists can be used to optimize system performance and ensure that data is available only where it needs to be.
Transparent Integration	Support for Microsoft Distributed File System Namespaces (DFS-N), Web Cache Control Protocol (WCCP) and Policy-based Routing (PBR) enables deployment without changing remote desktops or application/file server infrastructure.
High Availability	Automatic device failover and disaster recovery, as well as RAID, redundant power/cooling and hot-swappable drives support provide maximum system uptime.

Hardware Specifications				Software Specifications		
iShared Appliances	IS 100	IS 300	Qualified Server Platforms	iShared Software	Flex Install	Full Install
Appliance Profile	Medium office (6-50 users)	Large office (51-500 users)	Various	Data Store	20GB to 1TB	50GB to 1TB
Memory (min/max)	2/4GB	4/4GB	2/4GB	Redundancy	No	Optional
Hard Drive	2 x 250GB w/RAID	2 x 500GB w/RAID	2 x 250GB w/RAID	Network	1 x 100/1000Mbps	2 x 100/1000Mbps
Cache Storage	100GB	300GB	100GB to 1TB	Platforms	Any server with the following: <ul style="list-style-type: none"> <li>• <b>CPU:</b> 2.8GHz P4 or higher</li> <li>• <b>Memory:</b> 2GB or higher</li> <li>• <b>Application Disk Space:</b> 30MB</li> </ul>	Any server with the following: <ul style="list-style-type: none"> <li>• <b>CPU:</b> 3.0GHz single core P4 or higher</li> <li>• <b>2.0GHz</b> single core Opeteron or higher</li> <li>• <b>Memory:</b> 2GB or higher</li> <li>• <b>Minimum Disk Space:</b> 100MB</li> </ul>
Operating System	Windows/Linux	Windows/Linux	Windows	Operating System	Windows Server 2003 SP1 or R2	Windows Server 2003 SP1 or R2
Redundancy	Yes	Yes	Yes			
Network	2 x 2GbE	2 x 2GbE	2 x 2GbE			
Form Factor	Rack mount 2U	Rack mount 2U	Various			

[www.packeteer.com](http://www.packeteer.com)

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