PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3335655

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Execution Date
RIVERBED TECHNOLOGY, INC.	04/24/2015

RECEIVING PARTY DATA

Name:	MORGAN STANLEY SENIOR FUNDING, INC., AS COLLATERAL AGENT	
Street Address:	1585 BROADWAY	
City:	NEW YORK	
State/Country:	NEW YORK	
Postal Code:	10036	

PROPERTY NUMBERS Total: 312

Property Type	Number
Patent Number:	6856651
Patent Number:	7336682
Patent Number:	8745198
Patent Number:	8589530
Patent Number:	8635265
Patent Number:	8589531
Patent Number:	8799472
Patent Number:	8578479
Patent Number:	8613071
Patent Number:	8824429
Patent Number:	8914726
Patent Number:	8898734
Patent Number:	8694621
Patent Number:	8935295
Patent Number:	8955032
Patent Number:	8824282
Patent Number:	8676964
Patent Number:	8635361
Patent Number:	8707043
Patent Number:	8954957

PATENT REEL: 035561 FRAME: 0363

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Property Type	Number
Patent Number:	8634437
Patent Number:	8635346
Patent Number:	8719362
Patent Number:	8811193
Patent Number:	8850161
Patent Number:	8635334
Patent Number:	8607229
Patent Number:	8681614
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Property Type	Number
Patent Number:	8891379
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Patent Number:	8856222
Patent Number:	5945933
Patent Number:	6121903
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Application Number:	95002310
Application Number:	13536888
Application Number:	14091246
Application Number:	14327187
Application Number:	14334205
Application Number:	14450033
Application Number:	62033422

CORRESPONDENCE DATA

Fax Number: (212)751-4864

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ATTORNEY DOCKET NUMBER: 038263-0346

NAME OF SUBMITTER: ANGELA M. AMARU

SIGNATURE:	/s/ Angela M. Amaru			
DATE SIGNED:	05/01/2015			
Total Attachments: 17				
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PATENT SECURITY AGREEMENT

This Patent Security Agreement, dated as of April 24, 2015 (this "Patent Security Agreement"), by and among each of the signatories hereto indicated as a "Pledgor" (each a "Pledgor" and collectively, the "Pledgors"), in favor of Morgan Stanley Senior Funding, Inc., in its capacity as collateral agent for the Secured Parties (in such capacity, together with any successor thereof, the "Collateral Agent") pursuant to that certain Credit Agreement, dated as of April 24, 2015 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "Credit Agreement"), by and among Riverbed Holdings, Inc., a Delaware corporation, Project Homestake Merger Corp., a Delaware corporation which will merge with and into Riverbed Technology Inc., a Delaware corporation ("Riverbed"), at which time Riverbed shall become the Borrower, the Pledgor and each of the other guarantors listed on the signature pages thereto, the lenders from time to time party thereto, the several agents party thereto, including the Collateral Agent and Morgan Stanley Bank, N.A., as issuing bank.

WITNESSETH:

WHEREAS, the Pledgors are party to a that certain Security Agreement dated as of April 24, 2015 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement") in favor of the Collateral Agent pursuant to which each of the Pledgors pledged and granted to the Collateral Agent, for the ratable benefit of the Secured Parties, a security interest in the Patent Collateral (as defined below); and

WHEREAS, pursuant to the Security Agreement, the Pledgors are required to execute and deliver this Patent Security Agreement.

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the ratable benefit of the Secured Parties, to enter into the Credit Agreement, each Pledgor hereby agrees with the Collateral Agent as follows:

SECTION 1. <u>Defined Terms.</u> Capitalized terms used but not defined herein shall have the meanings given or given by reference to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. Each Pledgor hereby pledges and grants to the Collateral Agent for the ratable benefit of the Secured Parties a Lien on and security interest in and to all of the right, title and interest of such Pledgor in, to and under all the following Pledged Collateral of such Pledgor, in each case excluding Excluded Property, whether now existing or hereafter arising or acquired from time to time (collectively, the "Patent Collateral"): all patents and patent applications (whether issued or applied for), including the United States patents and patent applications, listed on Schedule 1 attached hereto, together with any and all (i) rights and privileges arising under applicable Legal Requirements with respect to the use of any of the foregoing, (ii) inventions and improvements described and claimed therein, (iii) reissues, substitutes, reexaminations, divisions, renewals, extensions, continuations and continuations-in-part thereof and amendments thereto, (iv) rights to proceeds, income, fees, royalties, damages and payments now or hereafter due and/or payable thereunder and with respect thereto including damages, claims and payments for past, present or future infringements or other violations thereof, (v) rights to sue or otherwise recover for past, present or future infringements or other violations thereof and (vi) rights corresponding thereto throughout the world.

SECTION 3. <u>Security Agreement</u>. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement, and the Pledgors hereby acknowledge and affirm that the rights and remedies of the Collateral Agent with respect to the security interest in the Patent Collateral made and granted hereby

are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control.

SECTION 4. <u>Counterparts</u>. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts. Delivery of an executed counterpart of a signature page to this Patent Security Agreement by facsimile or other electronic transmission shall be effective as delivery of a manually executed counterpart of this Patent Security Agreement.

SECTION 5. <u>Governing Law</u>. This Patent Security Agreement shall be construed in accordance with and governed by the laws of the State of New York, without regard to conflicts of law principles that would require the application of the laws of another jurisdiction.

[Signature Page Follows]

IN WITNESS WHEREOF, each Pledgor has caused this Patent Security Agreement to be executed and delivered by its duly authorized offer as of the date first set forth above.

RIVERBED TECHNOLOGY, INC.

Ву:

Name: Jerry M. Kennelly
Title. Chief Executive Officer

[Signature Page to Patent Security Agreement]

Accepted and Agreed:

MORGAN STANLEY SENIOR FUNDING, INC., as Collateral Agent

Ву:

Name: Jonathon Rauen Title: Authorized Signatory

[Signature Page to Patent Security Agreement]

$\begin{array}{c} \text{SCHEDULE 1} \\ \text{to} \\ \text{PATENT SECURITY AGREEMENT} \end{array}$

UNITED STATES PATENTS AND PATENT APPLICATIONS

United States Patents and Patent Applications:

Owner	Application	Patent	Title
	Number	Number	
Riverbed Technology, Inc.	09/872,184	6,856,651	System and method for incremental and continuous data compression
Riverbed Technology, Inc.	09/915,939	7336682	Network architecture and methods for transparent on-line cross-sessional encoding and transport of network communications data
Riverbed Technology, Inc.	10/880,332		Rule based alerting in anomaly detection
Riverbed Technology, Inc.	13/755,398		Connection forwarding
Riverbed Technology, Inc.	14/051,813		Method and system for managing a distributed network of network monitoring devices
Riverbed Technology, Inc.	14/070,475		Link inference in large networks
Riverbed Technology, Inc.	14/149,124		Web transaction analysis
Riverbed Technology, Inc.	14/151,782		Stitching together partial network topologies
Riverbed Technology, Inc.	14/158,726		Virtualization planning system
Riverbed Technology, Inc.	14/172,459		Cooperative proxy auto-discovery and connection interception
Riverbed Technology, Inc.	14/176,446		Detecting outliers in network traffic time series
Riverbed Technology, Inc.	14/176,644		Network topology generation using traceroute data
Riverbed Technology, Inc.	14/183,524		Capture, analysis, and visualization of concurrent system and network behavior of an application
Riverbed Technology, Inc.	14/198,204		Persisting large volumes of data in an efficient, unobtrusive manner
Riverbed Technology, Inc.	14/211,359		Native code profiler framework
Riverbed Technology, Inc.	14/242,200		Network multi-path discovery
Riverbed Technology, Inc.	14/259,886		Inferring connectivity in the presence of conflicting network data
Riverbed Technology, Inc.	14/267,349		Automatic prompt detection for universal device support
Riverbed Technology, Inc.	10/880,333	7,929,534	Flow logging for connection-based anomaly detection
Riverbed Technology, Inc.	10/937,986		Method and System for Grouping Diagnostic Information
Riverbed Technology, Inc.	11/001,985	8,745,198	Method for Discovery and Troubleshooting of Network Application Usage and Performance Issues

Owner	Application	Patent	Title
	Number	Number	
Riverbed Technology, Inc.	11/092,226	8,589,530	Method and System for Managing a
			Distributed Network of Network Monitoring
			Devices
Riverbed Technology, Inc.	11/124,807	8,635,265	Communicating between a Server and
D: 1 15 1 1 1	11/100 070		Clients
Riverbed Technology, Inc.	11/180,878		Packet Tracing
Riverbed Technology, Inc.	11/180,888	8,589,531	Network Difference Reporting
Riverbed Technology, Inc.	11/242,540	8,799,472	Peer signaling protocol and system for
	11/250 520		decentralized traffic management
Riverbed Technology, Inc.	11/358,538		Tracking, Analyzing, and Visualizing
Discoule d Tankanala ass. Inc.	11/297 002	9 579 470	Application Delay
Riverbed Technology, Inc.	11/387,092	8,578,479	Worm Propagation Mitigation
Riverbed Technology, Inc.	11/489,414	8,613,071	Split termination for secure communication protocols
Riverbed Technology, Inc.	11/490,586	8,824,429	Automatic Estimation of Node Location
			Based on Trace Information
Riverbed Technology, Inc.	11/503,555	8,914,726	Visualizing a Complex Network Based on a
			Set of Objects of Interest
Riverbed Technology, Inc.	11/505,171	8,898,734	Analyzing Security Compliance Within a
D'ander I Treeles de la contra	11/505 176	9.604.621	Network Control Analysis and Visualization of
Riverbed Technology, Inc.	11/505,176	8,694,621	Capture, Analysis, and Visualization of
			Concurrent System and Network Behavior of an Application
Riverbed Technology, Inc.	11/776,708	8,935,295	Identifying and Reporting Differences in
raversed recimology, me.	11,,,0,,,00	0,955,295	Network Activity Data Files
Riverbed Technology, Inc.	11/776,721	8,955,032	Assessing Network and Device Compliance
	·		with Security Policies
Riverbed Technology, Inc.	11/838,417	8,824,282	Network Simulation and Analysis Using
			Operational Forwarding Data
Riverbed Technology, Inc.	14/333,883		Network Simulation and Analysis Using
			Operational Forwarding Data
Riverbed Technology, Inc.	11/941,186		Modeling and Simulating Flow Propagation
D	12/117 (20		in Dynamic Bandwidth Systems
Riverbed Technology, Inc.	12/117,629		Hybrid segment-oriented file server and wan
Divisible d Tasharala ayı Tas	12/266 105	9 676 064	accelerator
Riverbed Technology, Inc.	12/266,105	8,676,964	Detecting Outliers in Network Traffic Time Series
Riverbed Technology, Inc.	12/327,766	8,635,361	Transaction acceleration using application-
Riverbed Technology, Ilic.	12/32/,/00	0,055,501	specific locking
Riverbed Technology, Inc.	12/396,904	8,707,043	Split termination of secure communication
			sessions with mutual certificate-based
			authentication
Riverbed Technology, Inc.	12/416,067		Log structured content addressable
			deduplicating storage
Riverbed Technology, Inc.	12/496,405		Defining network traffic processing flows
			between virtual machines
Riverbed Technology, Inc.	12/496,430	8,954,957	Network traffic processing pipeline for
			virtual machines in a network device

Owner	Application	Patent	Title
	Number	Number	
Riverbed Technology, Inc.	12/496,466	8,634,437	Extended network protocols for communication metadata with virtual machines
Riverbed Technology, Inc.	12/554,113		Supplying Data Files to Requesting Stations
Riverbed Technology, Inc.	12/632,703	8,635,346	Content delivery for client server protocols with user affinities using connection endpoint proxies
Riverbed Technology, Inc.	12/729,127		Method and apparatus for scheduling a heterogeneous communication flow
Riverbed Technology, Inc.	12/730,185		Virtualized data storage system architecture
Riverbed Technology, Inc.	12/730,198		Virtualized data storage system optimizations
Riverbed Technology, Inc.	12/878,992	8,719,362	Tiered storage interface
Riverbed Technology, Inc.	12/894,681		Rules-based transactions prefetching using connection end-point proxies
Riverbed Technology, Inc.	12/900,348	8,811,193	Network Path Discovery and Analysis
Riverbed Technology, Inc.	12/900,357		Network Path Discovery and Analysis
Riverbed Technology, Inc.	12/903,975	8,850,161	Method of improving performance of a data storage device
Riverbed Technology, Inc.	12/907,225		System and Methods for Inferring Services on a Network
Riverbed Technology, Inc.	13/918,329		Optimizing secure communications
Riverbed Technology, Inc.	12/963,481	8,635,334	Web Transaction Analysis
Riverbed Technology, Inc.	12/978,056		Virtual data storage devices and applications over wide area networks
Riverbed Technology, Inc.	13/021,709	8,607,229	Correcting Packet Timestamps in Virtualized Environments
Riverbed Technology, Inc.	14/073,865		Correcting Packet Timestamps in Virtualized Environments
Riverbed Technology, Inc.	13/070,064		Single-ended deduplication using cloud storage protocol
Riverbed Technology, Inc.	13/070,089		Ceduplicating cloud storage protocol
Riverbed Technology, Inc.	13/074,602		Optimized file creation in wan-optimized storage
Riverbed Technology, Inc.	13/074,923	8,681,614	Quality of service for inbound network traffic flows
Riverbed Technology, Inc.	13/115,692	8,924,481	Apparatus for Routing Requests
Riverbed Technology, Inc.	13/117,105	8,756,312	Multi-Tier Message Correlation
Riverbed Technology, Inc.	14/267,349		Multi-Tier Message Correlation
Riverbed Technology, Inc.	13/166,321	8,677,111	Booting devices using virtual storage arrays over wide-area networks
Riverbed Technology, Inc.	13/170,063		Connecting transparent network devices to optimize unidirectional network traffic
Riverbed Technology, Inc.	13/210,351	8,724,494	Network Path Discovery and Analysis
Riverbed Technology, Inc.	13/218,504	8843620	Monitoring Connections

Owner	Application	Patent	Title
Discorded Tracks along Lan	Number 12/240 105	Number	C
Riverbed Technology, Inc.	13/249,195	8,739,244	Configuring and authenticating wan
			optimization devices for accessing content delivery networks
Riverbed Technology, Inc.	13/250,200	8,725,859	Service Network Discovery
			·
Riverbed Technology, Inc.	13/301,688	8,670,352	Link Inference in Large Networks Based on Incomplete Data
Riverbed Technology, Inc.	13/315,619		Policy Aggregation for Computing Network Health
Riverbed Technology, Inc.	13/333,955	8,745,215	System and Method for Separately Analyzing Protocol and Congestion Delay in Networks
Riverbed Technology, Inc.	13/341,825	8,843,636	Managing digital certificates for wan optimization over content delivery networks
Riverbed Technology, Inc.	13/365,484		Correlating Input and Output Requests
Riverbed Technology, Inc.	13/303,404		between Client and Server Components in a
			Multi-Tier Application
Riverbed Technology, Inc.	13/365,496		Overhead Management for Event Tracing
raversed reemlology, me.	13/303,170		Software
Riverbed Technology, Inc.	13/410,689		Method and system for transmitting data
in to the interest of the inte	15, 110,005		over one or more networks
Riverbed Technology, Inc.	13/412,604	8,699,493	Routing Validation
Riverbed Technology, Inc.	13/412,623	8,700,958	Multi-Variate Network Survivability
		6,700,556	Analysis
Riverbed Technology, Inc.	13/415,815		Multilevel distributed network monitoring system architecture
Riverbed Technology, Inc.	13/415,819	8,971,196	Distributed network traffic data collection
			and storage
Riverbed Technology, Inc.	13/415,823		Identifying related network traffic data for monitoring and analysis
Riverbed Technology, Inc.	13/430,541	8,743,736	Inferring Connectivity in the Presence of
			Conflicting Network Data
Riverbed Technology, Inc.	13/436,873	8,938,553	Cooperative proxy auto-discovery and
			connection interception through network
			address translation
Riverbed Technology, Inc.	13/436,874	8,782,395	Monitoring usage of wan optimization devices integrated with content delivery networks
Riverbed Technology, Inc.	13/444,583	8,725,741	Assessing Application Performance with an Operational Index
Riverbed Technology, Inc.	13/448,389	8,743,742	System and Method for Inferring
			Connectivity Among Network Segments in
			the Absence of Configuration Information
Riverbed Technology, Inc.	13/453,731	8,804,521	Quality of service for inbound network
			traffic flows during slow-start phases
Riverbed Technology, Inc.	13/454,034	8,948,049	Method and system for determining path of a
			virtual connection through a network
Riverbed Technology, Inc.	13/454,050		Verifying Consistency Among device
			configurations based on comparing
			configuration files

Owner	Application Number	Patent Number	Title
Riverbed Technology, Inc.	13/460,392	8,688,844	Establishing network connections between
	,	, ,	transparent network devices
Riverbed Technology, Inc.	13/464,713		Ensuring write operation consistency using
			raid storage devices
Riverbed Technology, Inc.	13/464,714	8,745,320	Ensuring write operation consistency using
			multiple storage devices
Riverbed Technology, Inc.	13/471,956		Virtualized data storage system architecture
			using prefetching agent
Riverbed Technology, Inc.	13/487,863		Analysis of activity of devices in a network
			that employs translated network addresses
Riverbed Technology, Inc.	13/487,895		Application level interface to network
			analysis tools
Riverbed Technology, Inc.	13/491,501	8,792,493	Automatic framing selection
Riverbed Technology, Inc.	13/530,740		Controlling the Operation of Server
			Computers
Riverbed Technology, Inc.	13/536,770		Method and apparatus for load balancing
			between wan optimization devices
Riverbed Technology, Inc.	13/556,174	8,826,412	Automatic Access to Network Devices Using
			Various Authentication Schemes
Riverbed Technology, Inc.	13/556,178		Tuning Routing Metrics to Reduce
			Maximum Link Utilization and/or Provide
			Failure Resiliency
Riverbed Technology, Inc.	13/568,988		Quick Network Path Discovery
Riverbed Technology, Inc.	13/570,572		Application Performance Analysis that is
			Adaptive to Business Activity Patterns
Riverbed Technology, Inc.	13/589,896	8,762,455	Transaction accelerator for client-server
			communications systems
Riverbed Technology, Inc.	13/590,088	8,693,493	Methods and System for Modeling Wireless
			Communications in a Network
Riverbed Technology, Inc.	13/595,372	8,661,438	Virtualization Planning System
Riverbed Technology, Inc.	13/645,688		Methods and System for Workflow
	,		Management of Sales Opportunities
Riverbed Technology, Inc.	13/650,354		Routing Network Traffic
Riverbed Technology, Inc.	13/654,859	8,914,503	Detected IP Link and Connectivity Inference
Riverbed Technology, Inc.	13/657,541	, ,	Network capacity planning for multiple
Riverbed Teenhology, Inc.	15/05/,541		instances of an application
Riverbed Technology, Inc.	13/669,117	8,934,376	Incrementally Improved Auto-Discovery of
raversed reenhology, me.	15/005,117	0,551,570	Network Devices
Riverbed Technology, Inc.	13/670,753	8,671,205	Cooperative proxy auto-discovery and
raversed reemisings, me.	13/3/0,/33	0,071,200	connection interception
Riverbed Technology, Inc.	13/674,874	8891379	Traffic flow inference based on link loads
,			and gravity measures
Riverbed Technology, Inc.	13/677,283		Tuning routing metrics to reduce maximum
			link utilization and end-to-end delay
			violations
Riverbed Technology, Inc.	13/693,165		Tracking Objects within Dynamic
			Environments

Owner	Application	Patent	Title
	Number	Number	
Riverbed Technology, Inc.	13/715,381		Methods and Systems for Efficient Updating of Time-Aligned Graphs in a Monitoring System
Riverbed Technology, Inc.	13/725,926		Reliability and availability of distributed servers
Riverbed Technology, Inc.	13/744,364	8,762,569	System for selecting a proxy pair based on configurations of autodiscovered proxies on a network
Riverbed Technology, Inc.	13/745,055		Using Routing Information and Inter-layer Relationships to Determine Utilization in a Transport Network
Riverbed Technology, Inc.	13/746,273		Memory utilization analysis
Riverbed Technology, Inc.	13/766,703	8,856,222	Transaction acceleration for client-server communication systems
Riverbed Technology, Inc.	13/778,628		Serial clustering
Riverbed Technology, Inc.	13/867,499		Address manipulation to provide for the use of network tools even when transaction acceleration is in use over a network
Riverbed Technology, Inc.	13/874,044		Method and apparatus for a durable, portable and deterministic multi-part resource
Riverbed Technology, Inc.	13/949,162		Selective monitoring of software applications
Riverbed Technology, Inc.	13/949,163		End-to-end analysis of transactions in networks with traffic-altering devices
Riverbed Technology, Inc.	13/965,605		Application monitoring of related activities across multiple threads
Riverbed Technology, Inc.	13/975,049		Optimizing communications using client- side reconstruction scripting
Riverbed Technology, Inc.	14/042,863		User-configurable network performance monitors
Riverbed Technology, Inc.	14/060,271		Instrumenting computer program code by merging template and target code methods
Riverbed Technology, Inc.	14/062,489		Managing captured network traffic data
Riverbed Technology, Inc.	09/013,980	5,945,933	Adaptive Packet Compression Apparatus and Method
Riverbed Technology, Inc.	09/218,953	6,121,903	On-The-Fly Data Re-Compression
Riverbed Technology, Inc.	09/151,748	6,240,416	Distributed Metadata System and Method
Riverbed Technology, Inc.	09/103,621	6,266,337	Packet Retransmission Eliminator
Riverbed Technology, Inc.	09/345,249	6,600,752	Method for Reducing Excess Queue Time in Communication Nodes
Riverbed Technology, Inc.	10/186,401	6,643,613	System and Method for Monitoring Performance Metrics
Riverbed Technology, Inc.	10/285,330	6,667,700	Content-based segmentation scheme for data compression in storage and transmission including hierarchical segment representation

Owner	Application	Patent	Title
	Number	Number	
Riverbed Technology, Inc.	09/539,434	6,674,717	Method for Reducing Packet Loss and
			Increasing Internet Flow by Feedback
			Control
Riverbed Technology, Inc.	09/624,092	6,820,042	Mixed Mode Network Simulator
Riverbed Technology, Inc.	09/682,324	6,823,382	Monitoring and Control Engine for Multi-
			Tiered Service-Level Management of
			Distributed Web-Application Servers
Riverbed Technology, Inc.	10/731,687	6,828,925	Content-based segmentation scheme for data
			compression in storage and transmission
			including hierarchical segment
D' 1 170 1 1 1	10/205 101	6.020.472	representation
Riverbed Technology, Inc.	10/205,101	6,928,472	Method for Correlating Congestion to
Discorded Trade along Inc.	09/846,449	6.047.291	Performance Metrics in Internet Traffic
Riverbed Technology, Inc.	09/840,449	6,947,381	Method for Reducing Packet Loss by Phase Transition Identification in Communication
			Networks
Riverbed Technology, Inc.	10/968,868	6,961,009	Content-based segmentation scheme for data
Riverbed Teenhology, Inc.	10/708,808	0,501,005	compression in storage and transmission
			including hierarchical segment
			representation
Riverbed Technology, Inc.	09/879,838	6,968,540	Software Instrumentation Method and
			Apparatus
Riverbed Technology, Inc.	09/846,174	6,990,071	Method for Reducing Fetch Time in a
			Congested Communications Network
Riverbed Technology, Inc.	09/931,561	7,043,759	Architecture to Thwart Denial of Service
			Attacks
Riverbed Technology, Inc.	09/846,450	7,072,297	Method for Dynamical Identification of
			Network Congestion Characteristics
Riverbed Technology, Inc.	10/198,689	7,076,695	System and Methods for Adaptive Threshold
			Determination for Performance Metrics
Riverbed Technology, Inc.	11/223,789	7,116,249	Content-based segmentation scheme for data
			compression in storage and transmission
			including hierarchical segment
Discorded Trade of the	10/295 215	7 120 666	representation
Riverbed Technology, Inc.	10/285,315	7,120,666	Transaction accelerator for client-server
Riverbed Technology, Inc.	09/931,558	7,124,440	communications systems Monitoring Network Traffic Denial of
Kiverbed Technology, Inc.	09/931,336	7,124,440	Service Attacks
Riverbed Technology, Inc.	10/325,148	7,139,692	Flow Propagation Analysis Using Iterative
raversed reemlology, me.	10,525,110	7,155,052	Signaling
Riverbed Technology, Inc.	10/062,974	7,213,264	Architecture to Thwart Denial of Service
637		, , , ,	Attacks
Riverbed Technology, Inc.	10/243,534	7,219,034	System and Methods for Display of Time-
			Series Data Distribution
Riverbed Technology, Inc.	10/112,179	7,219,047	Simulation with Convergence-Detection
			Skip-Ahead
Riverbed Technology, Inc.	09/854,321	7,248,564	Method for Determining Network
			Congestion and Link Capacities

Owner	Application	Patent	Title
	Number	Number	
Riverbed Technology, Inc.	10/821,558	7,254,389	Wireless Link Simulation with Generic Caching
Riverbed Technology, Inc.	10/195,905	7,277,843	Method for Real-Time Auto-Detection of Outliers
Riverbed Technology, Inc.	09/931,291	7,278,159	Coordinated Thwarting of Denial of Service Attacks
Riverbed Technology	10/640,562	7,318,100	Cooperative proxy auto-discovery and connection interception
Riverbed Technology, Inc.	09/846,452	7,333,431	Method for Accelerating TCP Flows in Communication Networks with Dynamic Control
Riverbed Technology, Inc.	10/195,904	7,337,206	Method for Detecting Congestion in Internet Traffic
Riverbed Technology, Inc.	10/701,376	7,363,656	Event Detection/Anomaly Correlation Heuristics
Riverbed Technology, Inc.	09/946,787	7,398,317	Thwarting Connection-Based Denial of Service Attacks
Riverbed Technology, Inc.	11/229,016	7,428,573	Transaction accelerator for client-server communication systems
Riverbed Technology, Inc.	95/002,308		Reexamination of 7428573
Riverbed Technology, Inc.	10/923,576	7,443,870	Method for Prioritizing Grouped Data Reduction
Riverbed Technology, Inc.	11/832,319	7,444,263	Performance Metric Collection and Automated Analysis
Riverbed Technology, Inc.	10/701,400	7,461,404	Detection of Unauthorized Access in a Network
Riverbed Technology, Inc.	10/923,214	7,469,203	Wireless Network Hybrid Simulation
Riverbed Technology, Inc.	11/508,531	7,477,166	Content-based segmentation scheme for data compression in storage and transmission including hierarchical segment representation
Riverbed Technology, Inc.	11/756,584	7,480,240	Service curve mapping
Riverbed Technology, Inc.	10/205,135	7,509,229	Bayesian Approach to Correlating Congestion to Performance Metrics in Internet Traffic
Riverbed Technology, Inc.	11/061,978	7,519,700	Method and System for Topological Navigation of Hierarchical Data Groups
Riverbed Technology, Inc.	11/124,835	7,523,178	Tolerating Failure of Traffic Management Systems
Riverbed Technology, Inc.	09/846,451	7,551,560	Method of Reducing Packet Loss by Resonance Identification in Communication Networks
Riverbed Technology, Inc.	10/914,603	7,570,669	Synchronizing Packet Traces
Riverbed Technology, Inc.	10/137,744	7,581,023	Architecture to Thwart Denial of Service Attacks
Riverbed Technology, Inc.	11/173,758	7,593,351	Method and System for Collecting and Consolidating Network Traffic Information

Owner	Application Number	Patent Number	Title
Riverbed Technology, Inc.	11/778,053	7,639,609	Controlled Incremental Multi-Protocol Label
			Switching (MPLS) Traffic Engineering
Riverbed Technology	10/640,459	7,650,416	Content delivery for client-server protocols
			with user affinities using connection end-
Divarbad Taabaalaay, Ina	10/066,252	7,657,934	point proxies Architecture to Thwart Denial of Service
Riverbed Technology, Inc.	10/000,232	7,037,934	Attacks
Riverbed Technology, Inc.	10/702,073	7,664,963	Data Collectors in Connection-Based
,,		.,,.	Intrusion Detection
Riverbed Technology, Inc.	11/835,130	7,672,238	Mapping Off-Network Traffic to an
			Administered Network
Riverbed Technology, Inc.	11/494,692	7,688,743	Tracing Routing Differences
Riverbed Technology, Inc.	11/503,553	7,693,699	Incremental Update of Virtual Devices in a
			Modeled Network
Riverbed Technology, Inc.	10/803,167	7,698,730	Service Detection
Riverbed Technology, Inc.	09/931,223	7,702,806	Statistics Collection for Network Traffic
Riverbed Technology, Inc.	10/955,450	7,706,273	Port Tracking on Dynamically Negotiated Ports
Riverbed Technology, Inc.	10/701,404	7,716,737	Connection Based Denial of Service Detection
Riverbed Technology, Inc.	11/173,752	7,729,240	Method and System for Identifying
			Duplicate Packets in Flow-Based Network
			Monitoring System
Riverbed Technology, Inc.	11/180,879	7,729,256	Correlating Packets
Riverbed Technology, Inc.	11/506,665	7,730,099	Storage and Retrieval of Richly Typed Hierarchical Network Models
Riverbed Technology, Inc.	11/618,190	7,733,910	Data segmentation using shift-varying
			predicate function fingerprinting
Riverbed Technology, Inc.	09/931,487	7,743,134	Thwarting Source Address Spoofing-Based
Divarbad Taabnalagy Inc	10/066,232	7 7/2 /15	Denial of Service Attacks Denial of Service Attacks Characterization
Riverbed Technology, Inc.	·	7,743,415	
Riverbed Technology, Inc.	10/974,386	7,760,653	Stackable Aggregation for Connection Based Anomaly Detection
Riverbed Technology, Inc.	10/957,850	7,764,626	Role Grouping of Hosts in Computer Networks
Riverbed Technology, Inc.	11/755,692	7,769,834	A system for selecting a proxy pair based on
			configurations of autodiscovered proxies on
	10,501,155		a network
Riverbed Technology, Inc.	10/701,157	7,774,839	Feedback Mechanism to Minimize False
Riverbed Technology, Inc.	12/098,436	7,813,281	Assertions of a Network Intrusion Interactive MPLS Traffic Engineering
Riverbed Technology, Inc.	10/701,155	7,813,281	Connection Table for Intrusion Detection
	·		
Riverbed Technology, Inc.	09/931,344	7,836,498	Device to Protect Victim Sites During Denial of Service Attacks
Riverbed Technology, Inc.	12/210,087	7,839,781	SERVICE CURVE MAPPING
Riverbed Technology, Inc.	11/776,736	7,839,790	Network Congestion Analysis
raversed reclinology, me.	11///0,/50	1,007,170	The work Congestion Analysis

Owner	Application	Patent	Title
	Number	Number	
Riverbed Technology, Inc.	11/752,283	7,843,815	Estimation of Time-Varying Latency Based
			on Network Trace Information
Riverbed Technology, Inc.	12/195,393	7,843,840	Traffic Independent Survivability Analysis
Riverbed Technology, Inc.	11/875,900	7,844,423	Component-Based Modeling of Wireless
	10.012.212	- 0 10 - 70	MAC Protocols for Efficient Simulations
Riverbed Technology, Inc.	10/845,517	7,848,259	System and Methods for Inferring Services
Divaria d Tashnalagy Inc	12/101 205	7,849,134	on a Network Transaction accelerator for client-server
Riverbed Technology, Inc.	12/191,805	7,049,134	communications systems
Riverbed Technology, Inc.	95/002310		Reexamination of 7,849,134
Riverbed Technology, Inc.	12/330,197	7,852,237	Content-based segmentation scheme for data
Riverbed Technology, Inc.	12/330,197	7,652,257	compression in storage and transmission
			including hierarchical segment
			representation
Riverbed Technology, Inc.	11/273,861	7,853,699	Rules-based transaction prefetching using
			connection end-point proxies
Riverbed Technology, Inc.	11/397,359	7,885,200	Application Delay Analysis
Riverbed Technology, Inc.	12/397,356	7,885,206	Method and System for Topological
			Navigation of Hierarchical Data Groups
Riverbed Technology, Inc.	12/637,476	7,886,218	Methods and devices for post processing
			rendered web pages handling requests of
Divisible d Tachnology, Inc.	11/770 420	7 990 641	post processed web pages Path Flow Formulation for Fast Reroute
Riverbed Technology, Inc.	11/779,429	7,889,641	Bypass Tunnels in MPLS
Riverbed Technology, Inc.	11/506,648	7,894,369	Network Physical Connection Inference for
ravoroca reenhology, me.	117300,010	7,05 1,505	IP Tunnels
Riverbed Technology, Inc.	10/701,346	7,949,737	Method and Apparatus for Grouping Nodes
			Based on Connection Characteristics
Riverbed Technology, Inc.	12/391,967	7,953,869	Cooperative proxy auto-discovery and
			connection interception
Riverbed Technology, Inc.	12/398,898	7,984,160	Establishing a split-terminated
			communication connection through a stateful
Diverbed Technology, Inc.	12/478,775	8,005,006	firewall with network transparency Discovery of Multiple-Parent Dependencies
Riverbed Technology, Inc.	12/4/6,773	8,005,000	in Network Performance Analysis
Riverbed Technology, Inc.	11/125,562	8,005,019	Fuzzy Routing
Riverbed Technology, Inc.	11/735,474	8,005,945	Aggregating Policy Criteria Parameters into
raversed recimology, me.	117733,171	0,000,715	Ranges for Efficient Network Analysis
Riverbed Technology, Inc.	11/387,114	8,006,306	Exploit-Based Worm Propagation Mitigation
Riverbed Technology, Inc.	10/903,585	8,010,643	System and Methods for Simulating Traffic
	ĺ		Generation
Riverbed Technology	10/640,405	8,069,225	Transparent client-server transaction
			accelerator
Riverbed Technology, Inc.	12/549,787	8,078,593	Dictionary architecture and methodology for
	14 1000 000	0.000.001	revision-tolerant data de-duplication
Riverbed Technology, Inc.	11/829,925	8,089,904	Link Inference in Large Networks Based on
Divarbad Taabaalaan In-	10/701 202	8 000 800	Incomplete Data
Riverbed Technology, Inc.	10/701,392	8,090,809	Role Grouping

Owner	Application	Patent	Title
	Number	Number	
Riverbed Technology, Inc.	11/755,089	8,095,645	Traffic Flow Inference Based on Link Loads and Gravity Measures
Riverbed Technology, Inc.	12/060,271	8,095,649	Network Delay Analysis Including Parallel Delay Effects
Riverbed Technology, Inc.	10/903,586	8,130,661	Systems and Methods for Intelligent Probe
D' I I'E I I I	11/404 441	0.120.750	Testing
Riverbed Technology, Inc.	11/494,441	8,130,759	Routing Validation
Riverbed Technology, Inc.	11/834,058	8,135,990	Multi-Variate Network Survivability Analysis
Riverbed Technology, Inc.	11/507,114	8,140,665	Managing Captured Network Traffic Data
Riverbed Technology, Inc.	12/331,257	8,140,690	Connection forwarding
Riverbed Technology, Inc.	12/498,786	8,144,627	Inferring Connectivity in the Presence of Conflicting Network Data
Riverbed Technology, Inc.	11/844,765	8,159,971	System and Method for Inferring Connectivity Among Network Segments in the Absence of Configuration Information
Riverbed Technology, Inc.	12/192,103	8,165,038	Network Physical Connection Inference for IP Tunnels
Riverbed Technology, Inc.	12/176,317	8,166,004	Verifying Data Consistency Among Multiple Structured Files
Riverbed Technology, Inc.	12/191,514	8,176,186	Transaction accelerator for client-server communications systems
Riverbed Technology, Inc.	12/571,430	8,180,902	Establishing network connections between transparent network devices
Riverbed Technology, Inc.	12/571,433	8,181,060	Preventing data corruption with transparent network connections
Riverbed Technology, Inc.	10/701,381	8,191,136	Connection based denial of service detection
Riverbed Technology, Inc.	11/358,536	8,195,443	Predictive Modeling and Graphical Editing of Application Logic
Riverbed Technology, Inc.	11/832,923	8,195,736	Mapping Virtual Internet Protocol Addresses
Riverbed Technology, Inc.	11/494,364	8,204,058	Automatic framing selection
Riverbed Technology, Inc.	12/143,799	8,228,804	Tuning Routing Metrics to Reduce Maximum Link Utilization and/or Provide Failure Resiliency
Riverbed Technology, Inc.	11/503,554	8,230,491	Automatic Access to Network Devices Using Various Authentication Schemes
Riverbed Technology, Inc.	13/289,377	8,244,691	Dictionary architecture and methodology for revision-tolerant data de-duplication
Riverbed Technology, Inc.	11/501,388	8,249,094	Wireless MAC and Link-Layer Simulation Modeling
Riverbed Technology, Inc.	13/152,152	8,255,544	Establishing a split-terminated communication connection through a stateful firewall, with network transparency
Riverbed Technology, Inc.	12/196,044	8,255,906	Modeling Overhead for a Plurality of Virtualization Technologies in a Computer System
Riverbed Technology, Inc.	12/235,325	8,266,114	Log structured content addressable deduplicating storage

Owner	Application	Patent	Title
	Number	Number	
Riverbed Technology, Inc.	12/916,112	8,271,688	Transaction accelerator for client-server
			communications
Riverbed Technology, Inc.	12/861,832	8,296,424	Network Capacity Planning
Riverbed Technology, Inc.	12/544,317	8,305,931	Incremental and Targeted Auto-Discovery of
			Network Devices
Riverbed Technology, Inc.	12/502,983	8,307,203	Methods and systems for secure
			communications using a local certification
	12/25/11/10	0.212.101	authority
Riverbed Technology, Inc.	13/251,148	8,312,101	Transaction accelerator for client-server
Disarded Trade alson Inc.	12/246 452	9 212 120	communications systems
Riverbed Technology, Inc.	13/346,453	8,312,139	Traffic Flow Inference Based on Link Loads
Riverbed Technology, Inc.	13/082,186	8,316,118	and Gravity Measures Cooperative proxy auto-discovery and
Kiverbed Technology, Inc.	15/062,180	0,510,110	connection interception
Riverbed Technology, Inc.	13/459,065	8,321,580	Transaction accelerator for client-server
raversed reemlology, me.	13/137,003	0,321,300	communication systems
Riverbed Technology, Inc.	12/425,513	8,332,515	System and Method for Serving Web Pages
Riverbed Technology, Inc.	12/705,570	8,359,450	Memory Utilization Analysis
Riverbed Technology, Inc.	11/243,068	8,364,815	Reliability and availability of distributed
Kiverbed Technology, Inc.	1172+3,000	0,504,615	servers
Riverbed Technology, Inc.	12/495,432	8,370,309	Revision-tolerant data de-duplication
Riverbed Technology, Inc.	12/754,537	8,832,034	Space-efficient, revision-tolerant data de-
raversed recimology, inc.	12//3/,35/	0,032,031	duplication
Riverbed Technology, Inc.	13/536,888		1
Riverbed Technology, Inc.	12/825,296	8,380,825	Selecting proxies from among
la vere est i commercia gi, inc.		3,5 3 3,3 25	autodiscovered proxies
Riverbed Technology, Inc.	13/410,032	8,386,637	Connection forwarding
Riverbed Technology, Inc.	12/023,026	8,400,941	System and Methods for Inferring Services
	ĺ		on a Network
Riverbed Technology, Inc.	13/441,681	8,402,085	Transaction accelerator for client-server
			communications systems
Riverbed Technology, Inc.	11/494,352	8,411,570	Serial cluster
Riverbed Technology, Inc.	11/145,201	8,412,685	Method and system for managing data
Riverbed Technology, Inc.	12/826,430	8,438,628	Method and apparatus for split-terminating a
			secure network connection, with client
			authentication
Riverbed Technology, Inc.	11/683,325	8,447,802	Address manipulation to provide for the use
			of network tools even when transaction
			acceleration is in use over a network
Riverbed Technology, Inc.	12/106,272	8,458,795	Event Detection/Anomaly Correlation
Divariad Tasks alson Is-	11/404 025	9 462 624	Heuristics Congestion management even lessy network
Riverbed Technology, Inc.	11/494,025	8,462,624	Congestion management over lossy network
Riverbed Technology, Inc.	11/762,688	8,462,629	connections Cooperative operation of network transport
Kiveroeu reemiology, mc.	11/102,000	0,702,023	and network quality of service modules
Riverbed Technology, Inc.	11/754,940	8,463,843	Throttling of predictive ACKS in an
in the state of th	12,7,5,1,5,10	· · · · · · · · · · · · · · · · · · ·	accelerated network communication system
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Owner	Application	Patent	Title
	Number	Number	
Riverbed Technology, Inc.	12/140,184	8,463,941	Cross-session protocol acceleration and its application to storage area network file systems
Riverbed Technology, Inc.	12/266,081	8,472,328	Impact Scoring and Reducing False Positives
Riverbed Technology, Inc.	12/843,754	8,473,620	Interception of a cloud-based communication connection
Riverbed Technology, Inc.	12/327,693	8,478,986	Reducing latency of split-terminated secure communication protocol sessions
Riverbed Technology, Inc.	10/701,356	8,479,057	Aggregator for Connection Based Anomaly Detection
Riverbed Technology, Inc.	12/623,592	8,493,871	End-to-End Analysis of Transactions in Networks with Traffic-Altering Devices
Riverbed Technology, Inc.	11/505,228	8,493,883	A Method for Identifying and Analyzing Network Configuration Differences
Riverbed Technology, Inc.	12/176,325	8,495,577	Selective Monitoring of Software Applications
Riverbed Technology, Inc.	12/818,872	8,504,670	Virtualized data storage applications and optimizations
Riverbed Technology, Inc.	10/701,154	8,504,879	Connection Based Anomaly Detection
Riverbed Technology, Inc.	12/940,017	8,508,389	Content-based segmentation scheme for data compression in storage and transmission including hierarchical segment representation
Riverbed Technology, Inc.	12/902,964	8,509,070	Service curve mapping
Riverbed Technology, Inc.	12/495,815	8,516,090	Method and apparatus for distributing licenses
Riverbed Technology, Inc.	13/249,201	8,516,158	Integrating wan optimization devices with content delivery networks
Riverbed Technology, Inc.	12/044,861	8,533,310	Method and apparatus for acceleration by prefetching associated objects
Riverbed Technology, Inc.	13/249,177	8,549,108	Optimized prefetching of compound data
Riverbed Technology, Inc.	12/280,760	8,566,919	Distributed web application firewall
Riverbed Technology, Inc.	12/496,484	8,572,609	Configuring bypass functionality of a network device based on the state of one or more hosted virtual machines
Riverbed Technology, Inc.	11/678,595	8,577,956	User-Configurable Network Performance Monitors
Riverbed Technology, Inc.	13/424,005	8,601,122	Managing Captured Network Traffic Data
Riverbed Technology, Inc.	14/091,246		Resource access optimization
Riverbed Technology, Inc.	14/327,187		Transparently intercepting and optimizing resource requests
Riverbed Technology, Inc.	14/334,205		Optimizing secure communications between a client authenticating server and a mobile client
Riverbed Technology, Inc.	14/450,033		Method and apparatus for path selection
Riverbed Technology, Inc.	62/033,422		Serving application performance hints in an integrated development environment

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