IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

CROSSROADS SYSTEMS, INC., § § Plaintiff, § § v. § § DOT HILL SYSTEMS CORP., § § Defendant. §	C.A. NO. 1:13-CV-00800-SS JURY DEMANDED	
v. § § ORACLE CORPORATION, § § Defendant. §	C.A. NO. 1:13-CV-00895-SS JURY DEMANDED	
v. § § HUAWEI TECHNOLOGIES CO., LTD., § HUAWEI ENTERPRISE USA, INC., and § HUAWEI TECHNOLOGIES USA, Inc., § § Defendants. §	C.A. NO. 1:13-CV-01025-SS JURY DEMANDED	
v. § § CISCO SYSTEMS, INC., § § Defendant. §	C.A. NO. 1:14-CV-00148-SS JURY DEMANDED	
v. § § NETAPP, INC., § § Defendant. §	C.A. NO. 1:14-CV-00149-SS JURY DEMANDED	
v. § § QUANTUM CORPORATION, § § Defendant. §	C.A. NO. 1:14-CV-00150-SS JURY DEMANDED	

JOINT CLAIM CONSTRUCTION CHART OF DISPUTED TERMS
FOR U.S. PATENTS NOS. 6,425,035, 7,051,147, 7,934,041 AND 7,987,311

Pursuant to the Court's April 25, 2014 Scheduling Order, Plaintiff Crossroads Systems, Inc. ("Crossroads") and Defendants Dot Hill Systems Corporation ("Dot Hill"), Oracle Corporation ("Oracle"), Huawei Technologies Co., Ltd., Huawei Enterprise USA, Inc., Huawei Technologies USA, Inc. (collectively, "Huawei"), Cisco Systems, Inc. ("Cisco"), NetApp, Inc. ("NetApp"), and Quantum Corporation ("Quantum") jointly submit the following claim construction chart identifying each disputed claim term and containing each party's construction of the disputed claim terms. Because of the commonality of claim terms between the four patents-in-suit, the parties are submitting one chart for the Court's convenience.

Term, Patent and Claim Nos.	Crossroads' Proposed Construction	Defendants' Proposed Construction
Storage Router '035 Patent: 1, 2, 3, 4, 5, 6, 7, 10 '041 Patent: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 26, 30, 32, 35, 37, 41, 42, 43, 47, 49, 52, 53 '147 Patent: 1, 2, 3, 4, 5, 6, 9 '311 Patent: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 20, 21, 24, 25, 28	Defined by the remainder of the claim and does not require further construction.	A device that routes storage requests from initiator devices/workstations on one transport medium to target storage devices on the other transport medium and routes data between the initiator devices/workstations and target storage devices.
Allow(ing) Access . . . Using NLLBP '035 Patent: 1, 7, 10, 11 '041 Patent: 1, 20, 37 '147 Patent: 1, 6, 10, 28	**Allow(ing) Access from [devices] [the workstations] . . . to the storage devices using native low level, block protocol** Permit access using the native low level, block protocol of the virtual local storage without involving a translation from high level network protocols to a native low level block protocol request.	**Allow[ing] Access From [The Device/Devices/Workstations/Fibre Channel Initiator Devices] To The [Remote] Storage Device[s] Using Native Low Level, Block Protocols** To allow native low level block protocol requests to be routed from the [devices/Fibre Channel initiator devices/workstations] to the remote storage devices.

Term, Patent and Claim Nos.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'311 Patent: {None}		
Map/Mapping '035 Patent: 1, 7, 10, 11 '041 Patent: 1, 2, 4, 5, 6, 9, 16, 20, 21, 23, 24, 25, 28, 35, 37, 38, 40, 41, 42, 45, 52 '147 Patent: 1, 6, 9, 10, 14, 15, 16, 17, 21, 22, 23, 24, 28, 29, 30, 31, 34, 35, 36 '311 Patent: 1, 4, 6, 12, 16, 19, 20, 22, 28	To create a path from a device on one side of the storage router to a device on the other side of the router. A "map" contains a representation of devices on each side of the storage router, so that when a device on one side of the storage router wants to communicate with a device on the other side of the storage router, the storage router can connect the devices.	To create a known path for block-addressed data and commands from a particular device on one side of the storage router to a particular remote physical storage device on the other side of the router. A "map" contains a representation of the particular devices on each side of the storage router, so that before a particular workstation/device on one side of the storage router tries to communicate with a particular remote physical storage device on the other side of the storage router, the storage router already has stored a path from the particular workstation/device to the particular remote physical storage device over which the storage router will route block-addressed requests and data between the devices.
Remote '035 Patent: 1, 11 '041 Patent: 1, 2, 3, 4, 7, 12, 13, 19, 20, 21, 22, 23, 26, 31, 32, 37, 38, 39, 40, 43, 48, 49, 53 '147 Patent: 1, 4, 10, 13, 14, 15, 17, 18, 21, 28, 34 '311 Patent: 1, 5, 9, 16, 19, 21, 25	Indirectly connected through at least one serial network transport medium.	Indirectly connected through a storage router to enable network connections from [devices/Fibre Channel initiator devices/workstations] to storage devices at a distance greater than allowed by a conventional parallel interconnect.

Term, Patent and Claim Nos.	Crossroads' Proposed Construction	Defendants' Proposed Construction
Supervisor Unit '035 Patent: 1, 2, 10 '041 Patent: {None} '147 Patent: 1, 2, 9, 14, 15, 17, 19, 34, 35, 38 '311 Patent: {None}	A processing device that controls operation of the storage router, including handling mapping and access controls.	A device comprising at least: (1) a microprocessor, incorporating independent data and program memory spaces; and (2) associated logic required to implement a stand-alone processing system and programmed to process data in a buffer in order to map between devices and which implements access controls.
Interface between **Interface with [a first transport medium] and** **Interface with [a second transport medium]** '035 Patent: 1, 10 '041 Patent: 1 '147 Patent: 1, 9, 14, 21 '311 Patent: {None}	Does not require construction.	directly connect with/directly connect between
Access Controls '035 Patent: 1, 7, 8, 10, 11 '041 Patent: {None} '147 Patent: 1, 6, 7, 9 10, 28, 34 '311 Patent: {None}	**Access Controls** Controls which limit a [device/Fibre Channel initiator device/workstation]'s access to a specific subset of storage devices or sections of a single storage device according to a map.	**Access Controls** Controls which limit a [device/Fibre Channel initiator device/workstation]'s access to a specific subset of storage devices or sections of a single storage device according to a map for the [device/Fibre Channel initiator device/workstation].

Term, Patent and Claim Nos.	Crossroads' Proposed Construction	Defendants' Proposed Construction
Implement(ing)(s) access controls for storage space on the (remote) storage devices '035 Patent: 1, 7, 10, 11 '041 Patent: {None} '147 Patent: 1, 6, 9, 10, 28 '311 Patent: {None}	**Implement(ing)(s) access controls for storage space on the (remote) storage devices** Provides controls which limit a [device/Fibre Channel initiator device/workstation]'s access to a specific subset of storage devices or sections of a single storage device according to a map.	**Implement(ing)(s) access controls for storage space on the (remote) storage devices** Provide/providing controls that limit a [device/Fibre Channel initiator device/workstation]'s access to a specific subset of storage devices or sections of a single storage device according to a map for the [device/Fibre Channel initiator device/workstation].
Control/controlling access from the devices . . . to the storage space on the remote storage devices in accordance with the map '035 Patent: {None} '041 Patent: 1, 20, 37 '147 Patent: {None} '311 Patent: 1, 16	**Control/controlling access from the devices . . . to the storage space on the remote storage devices in accordance with the map** Limit a device's access to a specific subset of storage devices or sections of a single storage device according to a map.	**Control/controlling access from the devices . . . to the storage space on the remote storage devices in accordance with the map** Limit/limiting a device's access to a specific subset of storage devices or sections of a single storage device according to the map for the device
Control access from the [at least one] device . . . to the [at least one] remote storage device . . . using native low level, block protocols according to a map '035 Patent: {None} '041 Patent: {None}	**Control access from the [at least one] device . . . to the [at least one] remote storage device . . . using native low level, block protocols according to a map** Limit a device's access to a specific subset of storage devices or sections of a single storage device according to a map using the native low level, block protocol of the virtual local storage without involving a translation from high level network	**Control access from the [at least one] device . . . to the [at least one] remote storage device . . . using native low level, block protocols according to a map** Limit a device's access to the storage space on the [at least one] remote storage device according to a map for the device by limiting the routing of native low level, block protocol requests and data from the device to the [at least one] remote storage

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