

**Exhibit C1**  
**Invalidity Chart:**  
**U.S. Patent No. 7,152,182 (“’182 Patent”) (Ji et al.)**  
**in view of**  
**Sybase Adaptive Server Enterprise (“ASE”)**

Sybase Adaptive Server Enterprise (“ASE”) anticipates and/or renders obvious claims 1-7 and 9-18 (“Asserted Claims”) of the ’182 Patent under 35 U.S.C. §102 and/or §103, either alone or in combination with other prior art references, and/or in combination with the knowledge of a person of ordinary skill. ASE anticipates and/or renders obvious the Asserted Claims of the ’182 Patent as those claims have been applied by Valtrus in its Infringement Contentions and/or under SAP’s understanding of the proper construction of the claims.

Nothing stated herein shall be treated as an admission or suggestion that SAP agrees with Valtrus regarding either the scope of any of the Asserted Claims or the claim constructions advanced by Valtrus in its Infringement Contentions or anywhere else, or that any of SAP’s accused products meet any limitation of the Asserted Claims. Nothing stated herein shall be construed as an admission or a waiver of any particular construction of any claim term. Nothing stated herein shall be construed as an admission that the Asserted Claims are directed to patent-eligible subject matter. SAP reserve all rights to challenge any of the Asserted Claims under 35 U.S.C. § 101. SAP also reserve all rights to challenge any of the claim terms herein under 35 U.S.C. § 112, including by arguing that they are indefinite, not supported by the written description and/or not enabled. Accordingly, nothing stated herein shall be construed as a waiver of any argument available under 35 U.S.C. § 112. Nothing stated herein shall be construed as an admission or waiver with respect to the effective filing date of any of the Asserted Claims.

The following chart includes references to the structure, function, operation, and/or features of the technology described in ASE. SAP reserve the right to present direct evidence of the structure, function, operation, and/or features of the technology described in ASE (including product samples, source code, and/or witness testimony) and/or its prior art status, and to present alternative or additional documents concerning the structure, function, operation, and/or features of the technology described in ASE and/or its prior art status, as evidence that the technology described in ASE anticipates and/or renders obvious the Asserted Claims of the ’182 Patent.

The cited portions of ASE are merely illustrative, and Defendants reserve the right to rely on alternative or additional evidence, including uncited portions of ASE. Where the chart below states that ASE “describes” or “provides for” a limitation, such disclosure may be express, inherent, or implicit.

If not anticipated, one or more claims of the ’182 Patent are rendered obvious in light of ASE alone or ASE in combination with the knowledge of a person of ordinary skill in the art.

In addition, if not anticipated, one or more claims of the '182 Patent are rendered obvious in light of ASE in combination with one or more of the references identified in SAP's Invalidity Contentions.

- “What’s New in Sybase Adaptive Server Enterprise? (“Sybase ASE”),” June, 2001.
- “The Official Guide Sybase ASE 12.5 High Availability (“ASE 12.5”),” 2002.
- “Taming the Downtime: High Availability in Sybase ASE 12 (“ASE 12.0”),” February, 2000.

| Claim Element | Claim Language                        | ASE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1PRE          | A data redundancy system, comprising: | <p>ASE discloses “a data redundancy system,” for example:</p> <p>Sybase ASE at 30-31:<br/>A high availability cluster includes two machines that are configured so that, if one machine (or application) is brought down, the second machine assumes the workload of both machines. Each of these machines is called one node of the high availability cluster. A high availability cluster is typically used in an environment that must always be available, for example, a banking system to which clients must connect continuously, 365 days a year.</p> <p>Sybase’s Failover product enables Adaptive Server to work in a high availability cluster in an active-active configuration. That is, both the node in the cluster include Adaptive Servers managing independent workloads, and are capable of taking over each other’s workload in the event of a failure. The Adaptive Server that takes over the workload is called a secondary companion, and the Adaptive Server that fails is called the primary companion. Together they are companion servers. This movement from one node to another is called failover. After the primary companion is ready to resume its workload, it is moved back to its original node. This movement is called failback. Clients connected to the failed Adaptive Server automatically reestablish their network connections via the second machine.</p> <p>You can configure Sybase’s Failover for either an asymmetric or a symmetric setup. In an asymmetric setup the primary Adaptive Server performs the work during day-to-day operations, while the secondary Adaptive Server is prepared to take over the work during a system failure or a scheduled maintenance. The secondary companion is an independent</p> |

**Exhibit C2**  
**Invalidity Chart:**  
**U.S. Patent No. 7,152,182 (“’182 Patent”) (Ji et al.)**  
**in view of**  
**U.S. Patent No. 6,253,295 (“Beal”)**

U.S. Patent No. 6,253,295 to Beal et al. (“Beal”) anticipates and/or renders obvious claims 1-7 and 9-18 (“Asserted Claims”) of the ’182 Patent under 35 U.S.C. §102 and/or §103, either alone or in combination with other prior art references, and/or in combination with the knowledge of a person of ordinary skill. Beal anticipates and/or renders obvious the Asserted Claims of the ’182 Patent as those claims have been applied by Valtrus in its Infringement Contentions and/or under SAP’s understanding of the proper construction of the claims.

Nothing stated herein shall be treated as an admission or suggestion that SAP agrees with Valtrus regarding either the scope of any of the Asserted Claims or the claim constructions advanced by Valtrus in its Infringement Contentions or anywhere else, or that any of SAP’s accused products meet any limitation of the Asserted Claims. Nothing stated herein shall be construed as an admission or a waiver of any particular construction of any claim term. Nothing stated herein shall be construed as an admission that the Asserted Claims are directed to patent-eligible subject matter. SAP reserve all rights to challenge any of the Asserted Claims under 35 U.S.C. § 101. SAP also reserve all rights to challenge any of the claim terms herein under 35 U.S.C. § 112, including by arguing that they are indefinite, not supported by the written description and/or not enabled. Accordingly, nothing stated herein shall be construed as a waiver of any argument available under 35 U.S.C. § 112. Nothing stated herein shall be construed as an admission or waiver with respect to the effective filing date of any of the Asserted Claims.

The following chart includes references to the structure, function, operation, and/or features of the technology described in Beal. SAP reserve the right to present direct evidence of the structure, function, operation, and/or features of the technology described in Beal (including product samples, source code, and/or witness testimony) and/or its prior art status, and to present alternative or additional documents concerning the structure, function, operation, and/or features of the technology described in Beal and/or its prior art status, as evidence that the technology described in Beal anticipates and/or renders obvious the Asserted Claims of the ’182 Patent.

The cited portions of Beal are merely illustrative, and Defendants reserve the right to rely on alternative or additional evidence, including uncited portions of Beal. Where the chart below states that Beal “describes” or “provides for” a limitation, such disclosure may be express, inherent, or implicit.

If not anticipated, one or more claims of the ’182 Patent are rendered obvious in light of Beal alone or Beal in combination with the knowledge of a person of ordinary skill in the art.

**Exhibit C3**  
**Invalidity Chart:**  
**U.S. Patent No. 7,152,182 (“’182 Patent”) (Ji et al.)**  
**in view of**  
**U.S. Patent Publication No. 2003/0093638 (“Margerie”)**

U.S. Patent Publication No. 2003/0093638 to Margerie et al. (“Margerie”) anticipates and/or renders obvious claims 1-7 and 9-18 (“Asserted Claims”) of the ’182 Patent under 35 U.S.C. §102 and/or §103, either alone or in combination with other prior art references, and/or in combination with the knowledge of a person of ordinary skill. Margerie anticipates and/or renders obvious the Asserted Claims of the ’182 Patent as those claims have been applied by Valtrus in its Infringement Contentions and/or under SAP’s understanding of the proper construction of the claims.

Nothing stated herein shall be treated as an admission or suggestion that SAP agrees with Valtrus regarding either the scope of any of the Asserted Claims or the claim constructions advanced by Valtrus in its Infringement Contentions or anywhere else, or that any of SAP’s accused products meet any limitation of the Asserted Claims. Nothing stated herein shall be construed as an admission or a waiver of any particular construction of any claim term. Nothing stated herein shall be construed as an admission that the Asserted Claims are directed to patent-eligible subject matter. SAP reserve all rights to challenge any of the Asserted Claims under 35 U.S.C. § 101. SAP also reserve all rights to challenge any of the claim terms herein under 35 U.S.C. § 112, including by arguing that they are indefinite, not supported by the written description and/or not enabled. Accordingly, nothing stated herein shall be construed as a waiver of any argument available under 35 U.S.C. § 112. Nothing stated herein shall be construed as an admission or waiver with respect to the effective filing date of any of the Asserted Claims.

The following chart includes references to the structure, function, operation, and/or features of the technology described in Margerie. SAP reserve the right to present direct evidence of the structure, function, operation, and/or features of the technology described in Margerie (including product samples, source code, and/or witness testimony) and/or its prior art status, and to present alternative or additional documents concerning the structure, function, operation, and/or features of the technology described in Margerie and/or its prior art status, as evidence that the technology described in Margerie anticipates and/or renders obvious the Asserted Claims of the ’182 Patent.

The cited portions of Margerie are merely illustrative, and Defendants reserve the right to rely on alternative or additional evidence, including uncited portions of Margerie. Where the chart below states that Margerie “describes” or “provides for” a limitation, such disclosure may be express, inherent, or implicit.

If not anticipated, one or more claims of the '182 Patent are rendered obvious in light of Margerie alone or Margerie in combination with the knowledge of a person of ordinary skill in the art.

In addition, if not anticipated, one or more claims of the '182 Patent are rendered obvious in light of Margerie in combination with one or more of the references identified in SAP's Invalidity Contentions.

| Claim Element | Claim Language                        | Margerie                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1PRE          | A data redundancy system, comprising: | <p>Margerie discloses “a data redundancy system,” for example:</p> <p>Margerie at Abstract:<br/>A system and method for removing distance related latency effects in acknowledged data transfer applications. The system comprises providing highly reliable redundant communication links between a primary storage site and a remote storage site. The system receives data from a storage consumer and transcribes the data to a storage device at the primary storage site. Copies of the data are placed on each of the redundant communication links for transmission to the remote storage site, and a data transfer acknowledgement is immediately generated for the storage consumer. The copies of data are reconciled at the remote storage site and the data is transcribed to a storage device. A transaction report is issued and transmitted to the primary storage site. In the rare event that there are any errors in the reconciled data at the remote storage site, the transaction report includes an error message, and subsequent error recovery procedures are undertaken.</p> <p>Margerie at [0001]:<br/>The present invention relates to data storage and transfer systems, and more particularly to a system for removing latency effects in acknowledged data transfers.</p> <p>Margerie at [0026]:<br/>Reference is first made to FIG. 1 which shows in schematic form a remote mirrored storage system according to the present invention and indicated generally by reference 10. While the present invention is described in the context of a synchronous remote mirroring of storage, it will be appreciated that the system 10 has wider applicability to other systems, including remote primary storage and backup.</p> |

**Exhibit C4**  
**Invalidity Chart:**  
**U.S. Patent No. 7,152,182 (“’182 Patent”) (Ji et al.)**  
**in view of**  
**U.S. Patent Publication No. 2003/0225760 (“Ruuth”)**

U.S. Patent Publication No. 2003/0225760 to Ruuth et al. (“Ruuth”) anticipates and/or renders obvious claims 1-7 and 9-18 (“Asserted Claims”) of the ’182 Patent under 35 U.S.C. §102 and/or §103, either alone or in combination with other prior art references, and/or in combination with the knowledge of a person of ordinary skill. Ruuth anticipates and/or renders obvious the Asserted Claims of the ’182 Patent as those claims have been applied by Valtrus in its Infringement Contentions and/or under SAP’s understanding of the proper construction of the claims.

Nothing stated herein shall be treated as an admission or suggestion that SAP agrees with Valtrus regarding either the scope of any of the Asserted Claims or the claim constructions advanced by Valtrus in its Infringement Contentions or anywhere else, or that any of SAP’s accused products meet any limitation of the Asserted Claims. Nothing stated herein shall be construed as an admission or a waiver of any particular construction of any claim term. Nothing stated herein shall be construed as an admission that the Asserted Claims are directed to patent-eligible subject matter. SAP reserve all rights to challenge any of the Asserted Claims under 35 U.S.C. § 101. SAP also reserve all rights to challenge any of the claim terms herein under 35 U.S.C. § 112, including by arguing that they are indefinite, not supported by the written description and/or not enabled. Accordingly, nothing stated herein shall be construed as a waiver of any argument available under 35 U.S.C. § 112. Nothing stated herein shall be construed as an admission or waiver with respect to the effective filing date of any of the Asserted Claims.

The following chart includes references to the structure, function, operation, and/or features of the technology described in Ruuth. SAP reserve the right to present direct evidence of the structure, function, operation, and/or features of the technology described in Ruuth (including product samples, source code, and/or witness testimony) and/or its prior art status, and to present alternative or additional documents concerning the structure, function, operation, and/or features of the technology described in Ruuth and/or its prior art status, as evidence that the technology described in Ruuth anticipates and/or renders obvious the Asserted Claims of the ’182 Patent.

The cited portions of Ruuth are merely illustrative, and Defendants reserve the right to rely on alternative or additional evidence, including uncited portions of Ruuth. Where the chart below states that Ruuth “describes” or “provides for” a limitation, such disclosure may be express, inherent, or implicit.

If not anticipated, one or more claims of the ’182 Patent are rendered obvious in light of Ruuth alone or Ruuth in combination with the knowledge of a person of ordinary skill in the art.

In addition, if not anticipated, one or more claims of the '182 Patent are rendered obvious in light of Ruuth in combination with one or more of the references identified in SAP's Invalidity Contentions.

| Claim Element | Claim Language                        | Ruuth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1PRE          | A data redundancy system, comprising: | <p>Ruuth discloses “a data redundancy system,” for example:</p> <p>Ruuth at Abstract:<br/>This invention relates generally to database servers and computer systems and, more particularly, describes the mechanism to run transaction operations originating from a primary server used to replicate data in parallel in a secondary server. Especially the invention relates to running concurrent or parallel operations in a secondary server for redundancy, recovery and propagated transactions. This invention describes how parallel operation in a secondary server improves performance and availability and how it maintains transaction order and output congruent with the primary server where transaction operations are originated.</p> <p>Ruuth at [0001]:<br/>The present invention relates generally to database server and computer systems and, more particularly, to run transaction operations in a fault tolerant system originating from a primary server used to replicate data in parallel in a secondary server. Especially the invention relates to running parallel transactions in a secondary server for redundancy or recovery purposes.</p> <p>Ruuth at [0043]:<br/>As shown in FIG. 1 in the hot standby replication configuration servers can have two different roles, the first of which is a primary server 10 and the second a secondary (backup, slave) server 20. In association with database server applications are relevant databases, namely a primary database 11 and a secondary database 21. The server applications also control the transaction log files 13, 23. Primary server is the database server to which client applications connect to execute read and write transactions. Secondary server is a database server that communicates with the primary server through at least one network connection or other means of communication and that executes the transactions that primary server sends to it. The server role can be changed from primary to secondary and vice versa by using special commands without shutting down either of the servers. Typically, after a failure in the</p> |

**Exhibit C5**  
**Invalidity Chart:**  
**U.S. Patent No. 7,152,182 (“’182 Patent”) (Ji et al.)**  
**in view of**  
**Managing MC/ServiceGuard (“ServiceGuard Manual”)**

Managing MC/ServiceGuard, published in March 2002 by Hewlett Packard (“ServiceGuard Manual”) anticipates and/or renders obvious claims 1-7 and 9-18 (“Asserted Claims”) of the ’182 Patent under 35 U.S.C. §102 and/or §103, either alone or in combination with other prior art references, and/or in combination with the knowledge of a person of ordinary skill. ServiceGuard Manual anticipates and/or renders obvious the Asserted Claims of the ’182 Patent as those claims have been applied by Valtrus in its Infringement Contentions and/or under SAP’s understanding of the proper construction of the claims.

Nothing stated herein shall be treated as an admission or suggestion that SAP agrees with Valtrus regarding either the scope of any of the Asserted Claims or the claim constructions advanced by Valtrus in its Infringement Contentions or anywhere else, or that any of SAP’s accused products meet any limitation of the Asserted Claims. Nothing stated herein shall be construed as an admission or a waiver of any particular construction of any claim term. Nothing stated herein shall be construed as an admission that the Asserted Claims are directed to patent-eligible subject matter. SAP reserve all rights to challenge any of the Asserted Claims under 35 U.S.C. § 101. SAP also reserve all rights to challenge any of the claim terms herein under 35 U.S.C. § 112, including by arguing that they are indefinite, not supported by the written description and/or not enabled. Accordingly, nothing stated herein shall be construed as a waiver of any argument available under 35 U.S.C. § 112. Nothing stated herein shall be construed as an admission or waiver with respect to the effective filing date of any of the Asserted Claims.

The following chart includes references to the structure, function, operation, and/or features of the technology described in ServiceGuard Manual. SAP reserve the right to present direct evidence of the structure, function, operation, and/or features of the technology described in ServiceGuard Manual (including product samples, source code, and/or witness testimony) and/or its prior art status, and to present alternative or additional documents concerning the structure, function, operation, and/or features of the technology described in the ServiceGuard Manual and/or its prior art status, as evidence that the technology described in ServiceGuard Manual anticipates and/or renders obvious the Asserted Claims of the ’182 Patent.

The cited portions of ServiceGuard Manual are merely illustrative, and Defendants reserve the right to rely on alternative or additional evidence, including uncited portions of ServiceGuard Manual. Where the chart below states that ServiceGuard Manual “describes” or “provides for” a limitation, such disclosure may be express, inherent, or implicit.

If not anticipated, one or more claims of the '182 Patent are rendered obvious in light of ServiceGuard Manual alone or ServiceGuard Manual in combination with the knowledge of a person of ordinary skill in the art.

In addition, if not anticipated, one or more claims of the '182 Patent are rendered obvious in light of the ServiceGuard Manual in combination with one or more of the references identified in SAP's Invalidity Contentions.

| Claim Element | Claim Language                        | ServiceGuard Manual                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1PRE          | A data redundancy system, comprising: | <p>ServiceGuard Manual discloses “a data redundancy system,” for example:</p> <p>ServiceGuard Manual at 22:<br/>MC/ServiceGuard allows you to create high availability clusters of HP 9000 Series 800 computers. A high availability computer system allows application services to continue in spite of a hardware or software failure. Highly available systems protect users from software failures as well as from failure of a system processing unit (SPU), disk, or local area network (LAN) component. In the event that one component fails, the redundant component takes over. MC/ServiceGuard and other high availability subsystems coordinate the transfer between components.</p> <p>An MC/ServiceGuard cluster is a networked grouping of HP 9000 series 800 servers (host systems known as nodes) having sufficient redundancy of software and hardware that a single point of failure will not significantly disrupt service. Application services (individual HP-UX processes) are grouped together in packages; in the event of a single service, node, network, or other resource failure, MC/ServiceGuard can automatically transfer control of the package to another node within the cluster, allowing services to remain available with minimal interruption.</p> <p>ServiceGuard Manual at 22:</p> |

**EXHIBIT CO: Invalidity Chart for the Asserted Patents  
Based on Various References that Render the Claimed Inventions Obvious**

**Obviousness Claim Chart for U.S. Patent No. 7,152,182 ('182 Patent)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, the following prior art references render obvious claims 1-7 and 9-18 (“Asserted Claims”) of the '182 Patent under 35 U.S.C. § 103 prior art references. These combinations render obvious the Asserted Claims of the '182 Patent as those claims have been applied by Valtrus in its Infringement Contentions and/or under SAP's understanding of the proper construction of the claims.

Nothing stated herein shall be treated as an admission or suggestion that SAP agrees with Valtrus regarding either the scope of any of the Asserted Claims or the claim constructions advanced by Valtrus in its Infringement Contentions or anywhere else, or that any of SAP's accused products meet any limitation of the Asserted Claims. Nothing stated herein shall be construed as an admission or a waiver of any particular construction of any claim term. Nothing stated herein shall be construed as an admission that the Asserted Claims are directed to patent-eligible subject matter. SAP reserve all rights to challenge any of the Asserted Claims under 35 U.S.C. § 101. SAP also reserve all rights to challenge any of the claim terms herein under 35 U.S.C. § 112, including by arguing that they are indefinite, not supported by the written description and/or not enabled. Accordingly, nothing stated herein shall be construed as a waiver of any argument available under 35 U.S.C. § 112. Nothing stated herein shall be construed as an admission or waiver with respect to the effective filing date of any of the Asserted Claims.

The following charts include references to the structure, function, operation, and/or features of the technology described in the following prior art references. SAP reserves the right to present direct evidence of the structure, function, operation, and/or features of the technology described in the following prior art references (including product samples, source code, and/or witness testimony) and/or its prior art status, and to present alternative or additional documents concerning the structure, function, operation, and/or features of the technology described in the following prior art references and/or its prior art status, as evidence that the technology described in the following prior art references anticipates and/or renders obvious the Asserted Claims of the '182 Patent.

The cited portions of the following prior art references are merely illustrative, and Defendants reserve the right to rely on alternative or additional evidence, including uncited portions of the following prior art references. Where the chart below states that the following references “describes” or “provides for” a limitation, such disclosure may be express, inherent, or implicit.

To the extent any limitation below is not expressly disclosed in any particular reference or prior art system as described in the other Exhibits it would have been obvious to a POSITA to combine with any of the references disclosing that limitation below. The rationales supporting obviousness of such a modification would be without limitation: (A) combining prior art elements according to known methods to yield predictable results; (B) simple substitution of one known element for another to obtain predictable results; (C) use of known technique to improve similar devices (methods or products) in the same way; (D) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (E) “obvious to try”—choosing from a finite number of

**EXHIBIT CO: Invalidity Chart for the Asserted Patents  
Based on Various References that Render the Claimed Inventions Obvious**

identified, predictable solutions, with a reasonable expectation of success; (F) known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art; (G) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

For example, “the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1731, 1739-40 (2007). Because the ’182 Patent simply arranges old elements—e.g., existing methods and elements for creating data redundancy systems, particularly those that are remotely located—with each performing the same function it had been known to perform and yields no more than what one would expect from such an arrangement, the combination is obvious. *Id.* at 1742.

In addition “[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill . . . .” *Id.* at 1740. Accordingly, a person of ordinary skill in the art at the time of the alleged invention would have been motivated to combine or adapt known or familiar methods in the art, especially where market forces prompt such variations. Here, market forces demanded the rapid adoption of networked computer software and the Internet and the implementation of data redundancy systems so systems and data are constantly available. Thus one of skill in the art would have thought to combine or modify references that described known methods of creating data redundancy systems that one of skill in the art would have recognized as offering improvements to solutions of that time. The primary references for the ’182 Patent and the references below describe methods that were known to offer such improvements in creating data redundancy systems, and, accordingly, one of skill in the art would have been motivated to combine or modify the primary references and these references.

Moreover, since there was a finite number of predictable solutions, a person of ordinary skill in the art had good reason to pursue the known options. *Id.* The primary references for the ’182 Patent and the references below use familiar elements for their primary or well-known purposes in a manner well within the ordinary level of skill in the art. Accordingly, common sense and the knowledge of the prior art render the claims invalid under either Section 102 or Section 103. For example, common sense and knowledge of the prior art would suggest to person of ordinary skill in the art that data redundancy systems, particularly those that are remotely located, should minimize the bandwidth required to synchronize the data redundancy systems. Thus common sense would have motivated a person of ordinary skill in the art to combine existing data redundancy systems and methods with known methods of creating a primary storage facility and a second storage facility. Such systems would include data redundancy systems and components for storing a primary copy of data at a primary storage facility and for storing data that is redundant of the primary copy at a secondary storage facility.

**EXHIBIT CO: Invalidity Chart for the Asserted Patents  
Based on Various References that Render the Claimed Inventions Obvious**

Moreover, as detailed in SAP's Invalidity Contentions, many of the claim elements were already known as admitted by the applicant in the specification. These elements represented design choices available to a person of ordinary skill. When there is a design need or market pressure to solve a problem such as identified previously and/or described in the '182 Patent, and there are a finite number of identified, predictable solutions, a person of ordinary skill would be motivated to combine the known options that are within his or her technical grasp. Here, one of ordinary skill in the art would have been motivated to combine known prior art solutions, including those in primary references for the '182 Patent and the references below and those admitted by applicant to be known.

**EXHIBIT CO: Invalidity Chart for the Asserted Patents  
Based on Various References that Render the Claimed Inventions Obvious**

**CITED PRIOR ART REFERENCES**

**Invalidity Based on •U.S. Patent Publication No. 2002/0083281 (“Carteau”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent Publication No. 2002/0083281 (“Carteau”) renders obvious the ’182 Patent. Carteau was filed on December 22, 2000. Accordingly, Carteau is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent No. 6,560,617 (“Winger”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 6,560,617 (“Winger”) renders obvious the ’182 Patent. Winger was filed on March 18, 1999. Accordingly, Winger is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •PCT Publication No. WO2003009157 (“Halpern”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, PCT Publication No. WO2003009157 (“Halpern”) renders obvious the ’182 Patent. Halpern was filed on July 15, 2002. Accordingly, Halpern is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent Publication No. 2002/0049950 (“Loaiza”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent Publication No. 2002/0049950 (“Loaiza”) renders obvious the ’182 Patent. Loaiza was filed on January 18, 2001. Accordingly, Loaiza is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •“Evaluation of Remote Backup Algorithms for Transaction Processing Systems” (“Polyzois”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, “Evaluation of Remote Backup Algorithms for Transaction Processing Systems” (“Polyzois”) renders obvious the ’182 Patent. Polyzois was published on June 19, 1997. Accordingly, Polyzois is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**EXHIBIT CO: Invalidity Chart for the Asserted Patents  
Based on Various References that Render the Claimed Inventions Obvious**

**Invalidity Based on •U.S. Patent No. 6,205,449 (“Rastogi”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 6,205,449 (“Rastogi”) renders obvious the ’182 Patent. Rastogi was filed on May 20, 1998. Accordingly, Rastogi is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent Publication No. 2003/0126282 (“Sarkar”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent Publication No. 2003/0126282 (“Sarkar”) renders obvious the ’182 Patent. Sarkar was filed on December 29, 2001. Accordingly, Sarkar is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent No. 6,070,251 (“Chong”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 6,070,251 (“Chong”) renders obvious the ’182 Patent. Chong was filed on June 26, 1997. Accordingly, Chong is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent No. 5,504,861 (“Crockett”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 5,504,861 (“Crockett”) renders obvious the ’182 Patent. Crockett was filed on February 22, 1994. Accordingly, Crockett is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent Publication No. 2003/0014433 (“Teloh”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent Publication No. 2003/0014433 (“Teloh”) renders obvious the ’182 Patent. Teloh was filed on November 19, 2001. Accordingly, Teloh prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent Publication No. 2003/0126107 (“Yamagami”)**

**EXHIBIT CO: Invalidity Chart for the Asserted Patents  
Based on Various References that Render the Claimed Inventions Obvious**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent Publication No. 2003/0126107 (“Yamagami”) renders obvious the ’182 Patent. Yamagami was filed on December 27, 2001. Accordingly, Yamagami is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •PCT Publication No. WO2003017022 (“Nahum”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, PCT Publication No. WO2003017022 (“Nahum”) renders obvious the ’182 Patent. Nahum was filed on March 29, 1996. Accordingly, Nahum is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent No. 5,239,640 (“Froemke”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 5,239,640 (“Froemke”) renders obvious the ’182 Patent. Froemke was filed on February 01, 1991. Accordingly, Froemke is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent No. 6,684,301 (“Martin”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 6,684,301 (“Martin”) renders obvious the ’182 Patent. Martin was filed on May 31, 2001. Accordingly, Martin is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent No. 7,318,133 (“Yagawa”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 7,318,133 (“Yagawa”) renders obvious the ’182 Patent. Yagawa was filed on March 04, 2004 and claims benefit of provisional application No. 60/475,656 filed on June 3, 2003. Accordingly, Yagawa is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent No. 7,210,061 (“Anderson”)**

**EXHIBIT CO: Invalidity Chart for the Asserted Patents  
Based on Various References that Render the Claimed Inventions Obvious**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 7,210,061 (“Anderson”) renders obvious the ’182 Patent. Anderson was filed on April 17, 2003. Accordingly, Anderson is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent No. 6,694,447 (“Leach”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 6,694,447 (“Leach”) renders obvious the ’182 Patent. Leach was filed on September 29, 2000. Accordingly, Leach is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent No. 6,173,377 (“Yanai”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 6,173,377 (“Yanai”) renders obvious the ’182 Patent. Yanai was filed on April 17, 1998. Accordingly, Yanai is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent No. 5,889,935 (“Ofek”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 5,889,935 (“Ofek”) renders obvious the ’182 Patent. Ofek was filed on April 17, 1998. Accordingly, Ofek is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •U.S. Patent No. 6,442,706 (“Wahl”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 6,442,706 (“Wahl”) renders obvious the ’182 Patent. Wahl was filed on October 30, 2000. Accordingly, Wahl is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**Invalidity Based on •Korean Patent Publication No. 20020062483 (“Cho”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, Korean Patent Publication No. 20020062483 (“Cho”) renders obvious the ’182 Patent. Cho was published on July 26, 2002. Accordingly, Cho is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.

**EXHIBIT CO: Invalidity Chart for the Asserted Patents  
Based on Various References that Render the Claimed Inventions Obvious**

**Invalidity Based on •U.S. Patent Publication No. 2004/0010502 (“Bomfim”)**

In combination with other references charted separately and/or in combination with the knowledge of a person of ordinary skill, U.S. Patent No. 2004/0010502 (“Bomfim”) renders obvious the ’182 Patent. Bomfim was filed on July 12, 2002. Accordingly, Bomfim is prior art to the ’182 Patent under one or more provisions of pre-AIA 35 U.S.C. § 102.