

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GLOBAL TEL\*LINK CORPORATION  
Petitioner

v.

SECURUS TECHNOLOGIES, INC.  
Patent Owner

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Case IPR2016-01220  
Patent 9,007,420 B1

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**PETITIONER GLOBAL TEL\*LINK CORPORATION'S REPLY TO PATENT  
OWNER RESPONSE**

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**PETITIONER'S UPDATED EXHIBIT LIST**

<b>GTL Exhibit No.</b>	<b>Description</b>
<b>1001</b>	U.S. Patent No. 9,007,420 to Passe, filed January 10, 2014, issued April 14, 2015.
<b>1002</b>	Prosecution History of U.S. Patent No. 9,007,420.
<b>1003</b>	U.S. Patent Application Publication No. 2012/0262271 by Torgersrud <i>et al.</i> , filed April 18, 2011, published October 18, 2012.
<b>1004</b>	U.S. Patent No. 8,218,829 to Kenoyer, filed July 31, 2006, issued July 10, 2012.
<b>1005</b>	U.S. Patent No. 7,436,988 to Zhang <i>et al.</i> , filed June 3, 2005, issued Oct. 14, 2008.
<b>1006</b>	Declaration of Dr. Hoyamoon Beigi.
<b>1007</b>	E. Hjelmås <i>et al.</i> , "Face detection: A Survey," Computer Vision and Image Understanding, Vol. 83, No. 3, September 2001; pp. 236-74.
<b>1008</b>	M. Yang <i>et al.</i> , "Detecting Faces in Images: A Survey," IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 24, No. 1, January 2002; pp. 34-58.
<b>1009</b>	C. Zhang <i>et al.</i> , "A Survey of Recent Advances in Face Detection," Microsoft Research Technical Report No. MSR-TR-2010-66, Microsoft Corporation, 2010.
<b>1010</b>	M. Kirby <i>et al.</i> , "Application of the Karhunen-Loeve Procedure for the Characterization of Human Faces," IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 12, No. 1, January 1990; pp. 103-08.
<b>1011</b>	M. Turk <i>et al.</i> , "Eigenfaces for Recognition," Journal of Cognitive Neuroscience, Vol. 3, No. 1, 1991; pp. 71-86.
<b>1012</b>	J. Cartoux <i>et al.</i> , "Face Authentication or Recognition by Profile Extraction from Range Images," IEEE Proceedings of the Workshop on Interpretation of 3D Scenes, November 1989; pp. 194-99.
<b>1013</b>	K. Bowyer <i>et al.</i> , "A survey of approaches and challenges in 3D and multi-modal 3D+2D face recognition," Computer Vision and Image Understanding, Vol. 101, No. 1, 2006; pp. 1-15.

<b>GTL Exhibit No.</b>	<b>Description</b>
<b>1014</b>	U.S. Patent No. 9,064,257 to Beigi, filed November 2, 2011, issued June 23, 2015.
<b>1015</b>	U.S. Patent No. 6,219,640 to Basu <i>et al.</i> , filed August 6, 1999, issued April 17, 2001.
<b>1016</b>	P. Viola <i>et al.</i> , "Rapid Object Detection Using a Boosted Cascade of Simple Features," <i>Computer Vision and Pattern Recognition</i> , 2001.
<b>1017</b>	L.Sanchez Lopez, "Local Binary Patterns Applied to Face Detection and Face Recognition," Final Research Project, Universitat Politecnica de Catalunya, November 2010.
<b>1018</b>	Y. H. Huang <i>et al.</i> , "Face Detection and Smile Detection," Proceedings of IPPR Conference on Computer Vision, Graphics, and Image Processing, Shitou, Taiwan, A5-6, 2009.
<b>1019</b>	M. Felsberg, "Robot Vision Systems, PhD course spring term 2015," Computer Vision Laboratory PowerPoint Presentation, 2015.
<b>1020</b>	INTENTIONALLY LEFT BLANK
<b>1021</b>	Toderici <i>et al.</i> , "Bidirectional relighting for 3D-aided 2D Face Recognition," <i>Proceedings from IEEE Computer Vision and Pattern Recognition</i> , 13-18 June 2010, San Francisco, CA.
<b>1022</b>	Transcript of May 16, 2017, Deposition of Dr. Kakadiaris

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The '420 patent relates to video conferencing with inmates of a correctional facility, such as a prison. In the '420 patent, Securus claims to have invented, just three years ago, face recognition applied during a video conference with an inmate. At institution, the Board found a reasonable likelihood that all claims of the '420 patent are obvious over Torgersrud. In particular, the Board instituted review of claims 1-9 and 11-19 over Torgersrud and Kenoyer, and claims 10, 20, and 21 over Torgersrud, Kenoyer, and Zhang. Facing these grounds, Securus makes four arguments.

First, Securus claims for the first time that its real innovation isn't face recognition, but "the ability to distinguish 'actual faces' from imitations, such as photographs" by evaluating changes between video frames. (Ex. 2004, ¶45.) Securus calls this ability anti-spoofing. In making this argument, Securus seeks to rewrite its claims, advancing two new constructions. Securus's first construction is both incorrect and ineffectual. Securus argues that the claimed "actual face" is "the user's physical face and not a facsimile of a face such as a photograph." (Paper 17 ("POR"), 11.) The '420 patent specification doesn't define "actual." In fact, none of the evidence that Securus cites—the '420 patent's specification and prosecution history, and a lay dictionary—supports its interpretation that an "actual" face is in contrast to a "facsimile." Instead, each of those sources support the understanding of Dr. Beigi—GTL's expert with 20 years' experience in facial detection and

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