IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF IOWA
EASTERN DIVISION

SERVERSIDE GROUP LIMITED and SERVERSIDE GRAPHICS, INC.,

Plaintiffs,

vs.

TACTICAL 8 TECHNOLOGIES, L.L.C., and BANK OF IOWA CORPORATION,

Defendants.

No. C 12-2016-MWB

MEMORANDUM OPINION AND ORDER REGARDING CONSTRUCTION OF DISPUTED PATENT CLAIM TERMS

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I sometimes wonder if patent attorneys—and attorneys generally—turn off their sense of humor when they get into litigation. For example, in the TV series *Big Bang Theory*, when the following conversation occurs among Howard Wolowitz, an engineer, Dr. Sheldon Cooper, a theoretical physicist, and Penny, a waitress and aspiring actress, while the gang is at a hospital waiting for news about what caused Howard's mother to collapse, we all know why it's funny:

> Howard: They're running tests. I don't know. It may have been a heart attack or heart-attack-like event.
>
> Penny: What's the difference?
>
> Sheldon: A heart-attack-like event is an event that's like a heart attack.
>
> Penny: Thanks for clearing that up.

On the other hand, when the plaintiffs' patent attorneys argue in written submissions prior to a *Markman* hearing[1] that I should construe "secure unique identifier" as "unique identifier which is secure," it appears that no one—at least no one but me—is laughing. Similarly, when the defendants' patent attorneys argue in pre-hearing submissions that "logic games" lead to the conclusion that the same claim term is indefinite, it appears that no one but me finds the "games" amusing. Although construing the meaning of patent claim terms is a serious business, it is difficult to take seriously some of the arguments offered—apparently with a straight face—in support of constructions of certain claim terms in this case.

I. INTRODUCTION

A. Procedural Background

1. Serverside's Delaware action

On June 22, 2011, plaintiffs Serverside Group Limited and Serverside Graphics, Inc., collectively "Serverside," filed the original Complaint in this patent infringement action, against fifteen defendants, in the United States District Court for the District of Delaware (the Delaware action). Serverside's Complaint alleges infringement of certain claims of its U.S. Patent No. 7,931,199 (the '199 patent), entitled "Computerized Card Production Equipment," in **Count I**, and infringement of certain claims of its related U.S. Patent No. 7,946,490 (the '490 patent), also entitled "Computerized Card Production Equipment," in **Count II**.

On February 17, 2012, United States District Court Judge Richard Andrews entered a Memorandum Opinion in the Delaware action, in response to motions by several of the defendants, in which he concluded, *inter alia*, that the claims against

[1] *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996).

defendants Tactical 8 Technologies, L.L.C., and Bank of Iowa Corporation, collectively "the Iowa Defendants," should be transferred to this court, pursuant to 28 U.S.C. § 1406(a). That same day, Judge Andrews also entered a separate Order transferring the claims against the Iowa Defendants to this court pursuant to 28 U.S.C. § 1406(a).

2. Procedural landmarks in the Iowa action

After this action was transferred to this district, it was initially assigned to Chief United States District Court Judge Linda R. Reade. On March 14, 2012, the Iowa Defendants filed a joint Answer (docket no. 96), in this court, to Serverside's Complaint, denying Serverside's patent infringement claims against them. On April 18, 2012, United States Magistrate Judge Jon S. Scoles filed a Scheduling Order, Discovery Plan, And Order On Miscellaneous Pretrial Matters (Scheduling Order) (docket no. 112). Among other things, the Scheduling Order set requirements for various submissions concerning claim construction and set a *Markman* hearing on claim construction for February 22, 2013. On April 19, 2012, Chief Judge Reade entered an Order Setting Civil Jury Trial, Final Pretrial Conference, And Requirements For The Proposed Final Pretrial Order (Trial Setting Order) (docket no. 113), scheduling the trial in this matter for the two-week period beginning on January 21, 2014. On April 19, 2012, Chief Judge Reade also entered an Order (docket no. 114), prescribing the format for the claim chart for claim construction required in the Scheduling Order.

On August 29, 2012, Chief Judge Reade entered an Order (docket no. 117) reassigning this case to me. On November 13, 2012, I entered an Order Clarifying Trial Date, Resetting Final Pretrial Conference Time, And Stating New Requirements For Final Pretrial Order (Amended Trial Setting Order) (docket no. 120), reiterating that the trial is scheduled to begin during the two-week period beginning on January 21, 2014, but modifying other requirements for trial preparation.

My changing schedule required me to reset the *Markman* hearing, more than once, from the date originally set in the Scheduling Order. The *Markman* hearing was finally reset for February 20, 2013, by Order (docket no. 122) filed December 20, 2012. The following day, December 21, 2012, the parties filed their Joint Claim Terms Submission (docket no. 123), pursuant to the Scheduling Order, identifying the construction of nine claim terms of the patents-in-suit as "undisputed," and only three claim terms as "disputed." They offered profoundly different constructions of the three "disputed" terms, however.

On January 18, 2013, the Iowa Defendants filed their Claim Construction Brief (docket no. 124), to which they attached, as Exhibit 1, a copy of the '199 patent; as Exhibit 2, a copy of the '490 patent; as Exhibit 3, a portion of the prosecution history of the '199 patent (Amendments To The Claims, Attorney Docket No. 086887-0052, to Application No. 12/954,277); as Exhibit 4, another portion of the prosecution history to the '199 patent (another set of Amendments To The Claims, Attorney Docket No. 066371-0071, to Application No. 12/132,516); as Exhibit 5, another portion of the prosecution history to the '199 patent (Remarks, Attorney Docket No. 066371-0071, to Application No. 12/132,516); as Exhibit 6, an October 2, 2012, Order in the Delaware action construing terms of the '199 patent and the '490 patent; and, as Exhibit 7, a portion of the prosecution history to both patents (Remarks, Attorney Docket No. 08667-0037, to Application No. 10/545,833). Also on January 18, 2013, Severside filed its Opening Claim Construction Brief (docket no. 125), to which Severside attached, as Exhibit A, another copy of the '199 patent; as Exhibit B, another copy of the '490 patent; as Exhibit C, another copy of the October 2, 2012, Order on claim construction in the Delaware action; and, as Exhibit D, an excerpt of the MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS (6th ed. 2003). On February 8, 2013, Severside filed its Rebuttal Claim Construction Brief (docket no.

126), to which Severside attached, as Exhibit A, a portion of the prosecution history of both patents (Amendment, Attorney Docket No. 066371-0027, to Application No. 10/545,833). Also on February 8, 2013, the Iowa Defendants filed their Responsive Claim Construction Brief (docket no. 127), but with no additional attachments.

As I have done in other patent infringement cases, *see Ideal Instruments, Inc. v. Rivard Instruments, Inc.*, 498 F. Supp. 2d 1131, 1136 (N.D. Iowa 2007); *Maytag Corp. v. Electrolux Home Prods, Inc.*, 1008, 1015–16 (N.D. Iowa 2006); *TransAmerica Life Ins. Co. v. Lincoln Nat'l Life Ins. Co.*, 550 F. Supp. 2d 865 (N.D. Iowa 2008), on February 18, 2013, a few days before the *Markman* hearing, I provided the parties with a *Tentative Draft* of this Memorandum Opinion And Order Regarding Construction Of Disputed Patent Claim Terms, based on the parties' written submissions concerning claim construction. In the past, I have found that such a procedure was very effective in focusing the parties' arguments on true disputes about construction of pertinent claim terms as well as on specific parts of my tentative claim constructions where the parties believed that I had gone wrong. The parties in the prior patent cases appeared to agree, because they recommended that I follow such a procedure for rendering *Markman* decisions in future patent cases. It was my hope that doing so in this case would achieve some of the same benefits, and I was not disappointed.

On February 20, 2013, I held a *Markman* hearing, at which Serverside was represented by Michael A. Albert of Wolf, Greenfield & Sacks, P.C., in Boston, Massachusetts, and local counsel Glenn Johnson of Nyemaster Goode, P.C., in Cedar Rapids, Iowa, and the Iowa Defendants were represented by Michael A. Dee and Brian Pringel of Brown, Winick, Graves, Gross, Baskerville & Schoenebaum, P.L.C., in Des Moines, Iowa. The *Markman* hearing consisted of oral argument and submission, by the Iowa Defendants, of additional documentary evidence, described in more detail in

Section II.D. The parties' arguments were clear, cogent, and presented with consummate professionalism.

The issues of claim construction are now fully submitted.

B. Factual Background

1. The patents-in-suit

As noted above, Severside alleges that the Iowa Defendants are infringing certain claims of two of Severside's patents. Those two patents are U.S. Patent No. 7,931,199 (the '199 patent), issued April 26, 2011, and entitled "Computerized Card Production Equipment," and U.S. Patent No. 7,946,490 (the '490 patent), issued May 24, 2011, and also entitled "Computerized Card Production Equipment." Both patents arise from provisional application No. 60/447,972, filed on February 18, 2003, and are continuations of application No. 10/545,833, filed as application No. PCT/GB2004/00626 on February 17, 2004, and a continuation-in-part of application No. 10/406,519, filed on April 3, 2003. The '199 patent is a continuation of application No. 12/132,516, filed on June 3, 2008, which is a further continuation of application 10/545,833. Consequently, the Abstracts, Figures, Cross-Reference To Related Applications, Technical Fields, Backgrounds, Summaries, Brief Descriptions Of The Drawings, and Detailed Descriptions of the two patents are nearly identical. Unless otherwise indicated, citations to and quotations from the '199 patent appear in the identical location, in identical form, in the '490 patent. I will refer to titled sections of the patents in the singular and quote portions of the patents using the '199 patent as the source, unless otherwise required. Identically numbered claims of the two patents are sometimes stated in identical language and sometimes stated somewhat differently, albeit with much overlap of claim terms, so I will always differentiate between the claims of the two patents.

The Abstract initially explains, rather opaquely, that "[a]n apparatus and method for manipulating images is disclosed." A somewhat more helpful general explanation of the invention is provided by the Technical Field, which adds,

> The invention relates . . . in particular to methods and apparatus for reproducing personalized images on consumer goods at locations remote from a user. The preferred embodiment includes on-line product-based image manipulation software.

'199 Patent, Technical Field, 1:25-30. In its Opening Brief, Serverside explains the invention, if not more succinctly, perhaps more helpfully, as follows:

> Specifically, the claims recite various features relating to equipment for personalizing images using a graphical user interface and a remote image processor, applying those images to a financial transaction card and associating the card with the personalized image in secure ways.

Severside's Opening Brief at 1.

I find the following excerpt from the Detailed Description to be helpful to a general understanding of the claimed invention:

> The preferred embodiment . . . allows for on-line image manipulation by emulating the browser-based transformations (such as re-sizing or overlaying images) made by the user on a representation of the image, on the server so that the images produced can be used for personalized product creation.
>
> On-line image manipulation is allowed by creating a two-tier architecture, in an embodiment according to the invention: there is one program that allows image manipulation on the screen in front of a user [elsewhere described as the front-end process]; and a second program on a server that emulates these manipulations [elsewhere described as the back-end process], so that the images can be output for personalized product creation. In the preferred embodiment, the back end process, or elements of it, can be

> performed in a secure computing environment; and customized images can be printed onto an actual product under very high security (for example, bank level security). In this way, a user with internet access can design customized images for printing on a remote product which requires secure treatment, such as bank level security. For example, anti-fraud and anti-theft measures mean that the production of credit cards, and other types of transaction cards, is performed in secure locations. Customization of the designs applied to such cards is thus possible, using preferred embodiments, without the need to give the user direct computing access to the secure environment.

'199 Patent, Detailed Description, 9:54-10:11.

Thus, to put the description of the invention in plain English—a dangerous endeavor when faced with patents and patent attorneys—the invention allows customers to use a secure process on the internet to select personalized images, which are printed on their bank credit or debit cards, even if the customer, the images, the image manipulation software, the customer's account information, and the card printer are all in different locations.

After the initial, rather opaque description of the invention in the Abstract, quoted above, the Abstract describes generally two of the possible embodiments according to the invention. The figure that appears with the Abstract of the '199 patent is actually Figure **2** of the patents, which "illustrates a method of operating a computer system for remote manipulation of images, in accordance with an embodiment of the present invention." '199 Patent, Brief Description Of The Drawings, FIG. **2**, 7:63-65. Although the representative figure is Figure **2**, I understand this figure to illustrate the first of the two embodiments described in the Abstract. That embodiment is described, as follows:

> In one embodiment according to the invention, a method for manipulating images comprises: displaying for manipulation

> at a browser-based user interface a graphical representation of at least a portion of an image held at a remote image store; providing an internet communications link coupling the user interface to a remote image processor; transferring information about manipulations applied to the graphical representation between the user interface and the remote image processor; and causing the remote image processor to access the remote image store and apply, to at least a portion of the image held in the store, manipulations emulating those applied to the graphical representation.

A much more detailed description of this embodiment appears in the Detailed Description at 12:19-64. Figure **2** appears below.

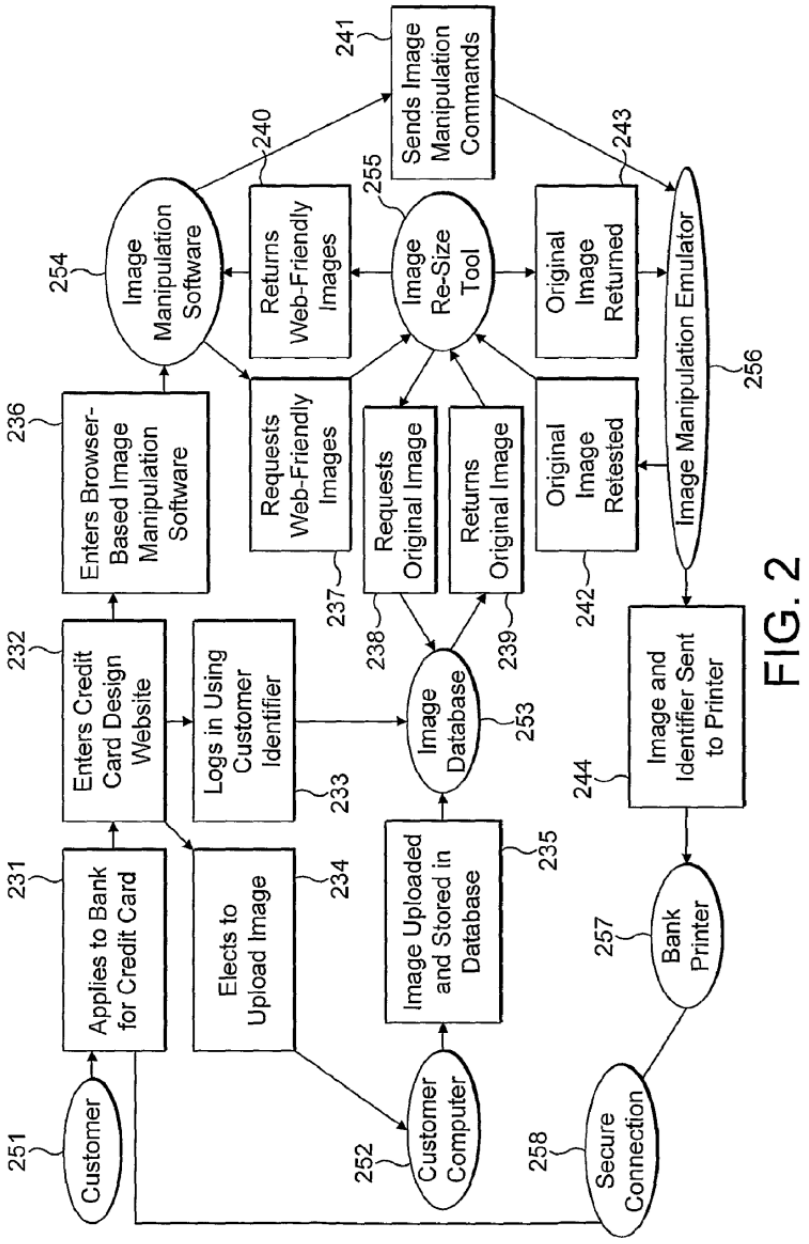
Customer
Applies to Bank for Credit Card
Enters Credit Card Design Website
Enters Browser-Based Image Manipulation Software
Image Manipulation Software
Sends Image Manipulation Commands
Elects to Upload Image
Logs in Using Customer Identifier
Requests Web-Friendly Images
Returns Web-Friendly Images
Image Re-Size Tool
Original Image Returned
Image Manipulation Emulator
Customer Computer
Image Uploaded and Stored in Database
Image Database
Requests Original Image
Returns Original Image
Original Image Retested
Image and Identifier Sent to Printer
Bank Printer
Secure Connection
251
231
232
236
254
241
240
255
243
256
234
233
237
238
239
242
235
253
244
257
252
258

FIG. 2

The figure that appears with the Abstract of the '490 patent is actually Figure **1** of the patents, which "illustrates a computer system for remote manipulation of images, in accordance with an embodiment of the present invention." '199 Patent, Brief Description Of The Drawings, FIG. **1**, 7:59-62. Although the representative figure is Figure **1**, I understand this figure to illustrate the second of the two embodiments described in the Abstract. That embodiment is described, as follows:

> In another embodiment according to the invention, there is disclosed a method for applying a personalized image to a financial account access means corresponding to a financial account of a customer. The method comprises: associating financial data, corresponding to the financial account of the customer, with a customer image identifier in a financial account association table maintained securely from a user interface; associating the customer image identifier with user image selection data based on user selections made on the user interface in relation to a graphical representation of at least a portion of an original image held in an image store; and applying the personalized image to the financial account access means, the personalized image being based on the user image selection data associated with the customer image identifier.

Again, a much more detailed description of this embodiment appears in the Detailed Description at 10:62-12:18. Figure **1** appears below.

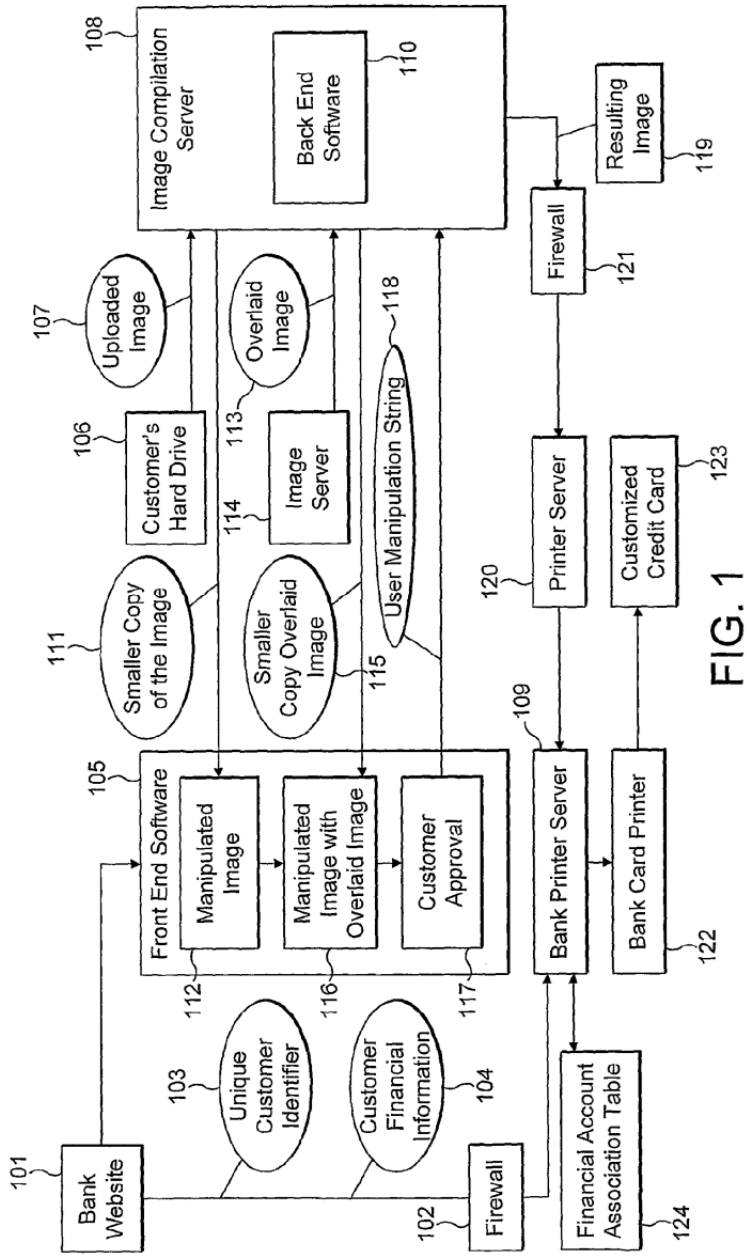
Bank Website
101
Firewall
102
Unique Customer Identifier
103
Customer Financial Information
104
Front End Software
105
Manipulated Image
112
Manipulated Image with Overlaid Image
116
Customer Approval
117
Customer's Hard Drive
106
Uploaded Image
107
Image Compilation Server
108
Back End Software
110
Image Server
114
Overlaid Image
113
Smaller Copy of the Image
111
Smaller Copy Overlaid Image
115
User Manipulation String
118
Bank Printer Server
109
Bank Card Printer
122
Financial Account Association Table
124
Printer Server
120
Customized Credit Card
123
Firewall
121
Resulting Image
119

FIG. 1

It may also be helpful to include here two other figures that illustrate two additional embodiments of the claimed invention, Figures **11** and **12**. As the Brief Description Of The Drawings explains,

> FIG. **11** illustrates a method of operating a computer system for remote manipulation of images, *using a unique customer identifier*, in accordance with an embodiment of the present invention[.]

'199 Patent, Brief Description Of The Drawings, 8:1-4 (emphasis added). A much more detailed description of the embodiment in Figure **11** appears in the Detailed Description at 15:19-16:4. Figure **11** appears below.

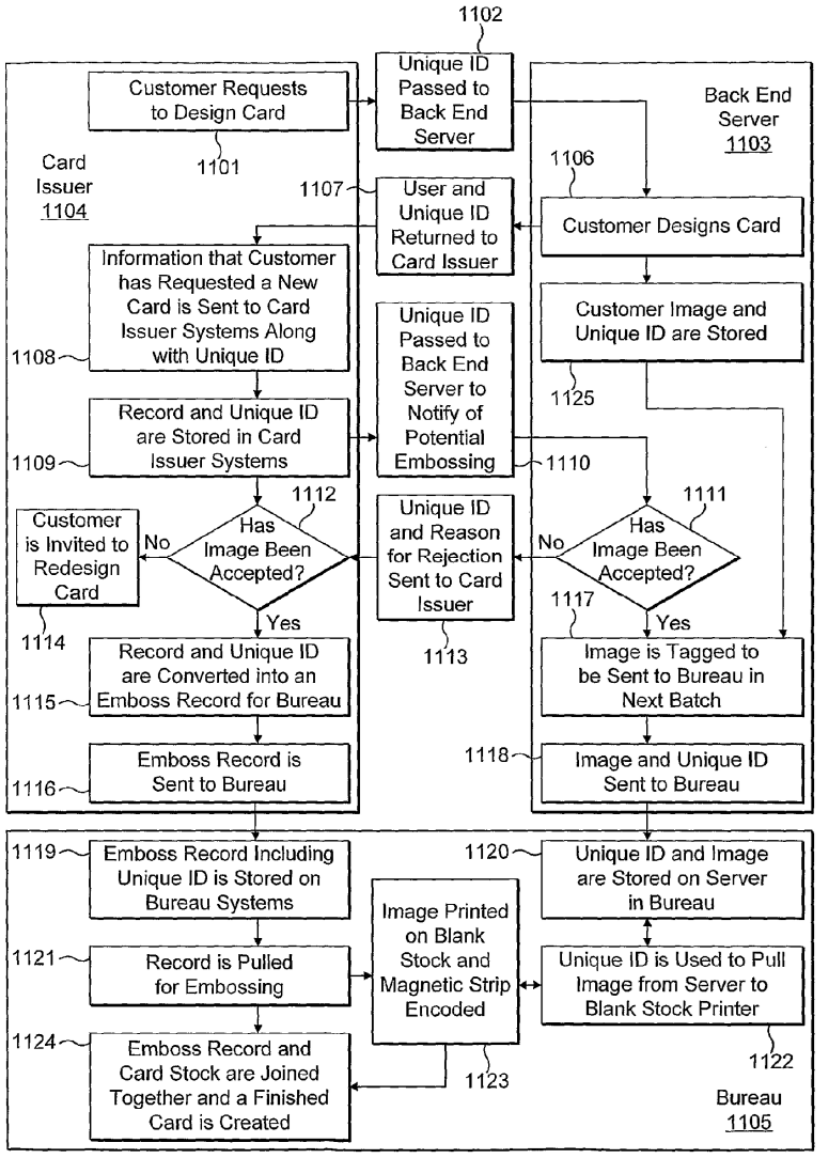
1102
Unique ID Passed to Back End Server
Customer Requests to Design Card
1101
Back End Server 1103
Card Issuer 1104
1106
1107
User and Unique ID Returned to Card Issuer
Customer Designs Card
Information that Customer has Requested a New Card is Sent to Card Issuer Systems Along with Unique ID
1108
Unique ID Passed to Back End Server to Notify of Potential Embossing
Customer Image and Unique ID are Stored
1125
Record and Unique ID are Stored in Card Issuer Systems
1109
1110
1112
1111
Customer is Invited to Redesign Card
No
Has Image Been Accepted?
Unique ID and Reason for Rejection Sent to Card Issuer
No
Has Image Been Accepted?
1114
Yes
1113
1117
Yes
Record and Unique ID are Converted into an Emboss Record for Bureau
1115
Image is Tagged to be Sent to Bureau in Next Batch
Emboss Record is Sent to Bureau
1116
1118
Image and Unique ID Sent to Bureau
1119
Emboss Record Including Unique ID is Stored on Bureau Systems
1120
Unique ID and Image are Stored on Server in Bureau
Image Printed on Blank Stock and Magnetic Strip Encoded
1121
Record is Pulled for Embossing
Unique ID is Used to Pull Image from Server to Blank Stock Printer
1124
1122
Emboss Record and Card Stock are Joined Together and a Finished Card is Created
1123
Bureau 1105

FIG. 11

As the Brief Description Of The Drawings also explains,

> FIG. **12** illustrates a method of operating a computer system for remote manipulation of images, *using a hash value to avoid the need for creating and maintaining a unique customer identifier* through the card application and printing lifecycle, in accordance with an embodiment of the present invention[.]

'199 Patent, Brief Description Of The Drawings, 8:5-10 (emphasis added). A much more detailed description of the embodiment in Figure **12** appears in the Detailed Description at 15:12-18 and 16:5-39. Figure **12** appears below.

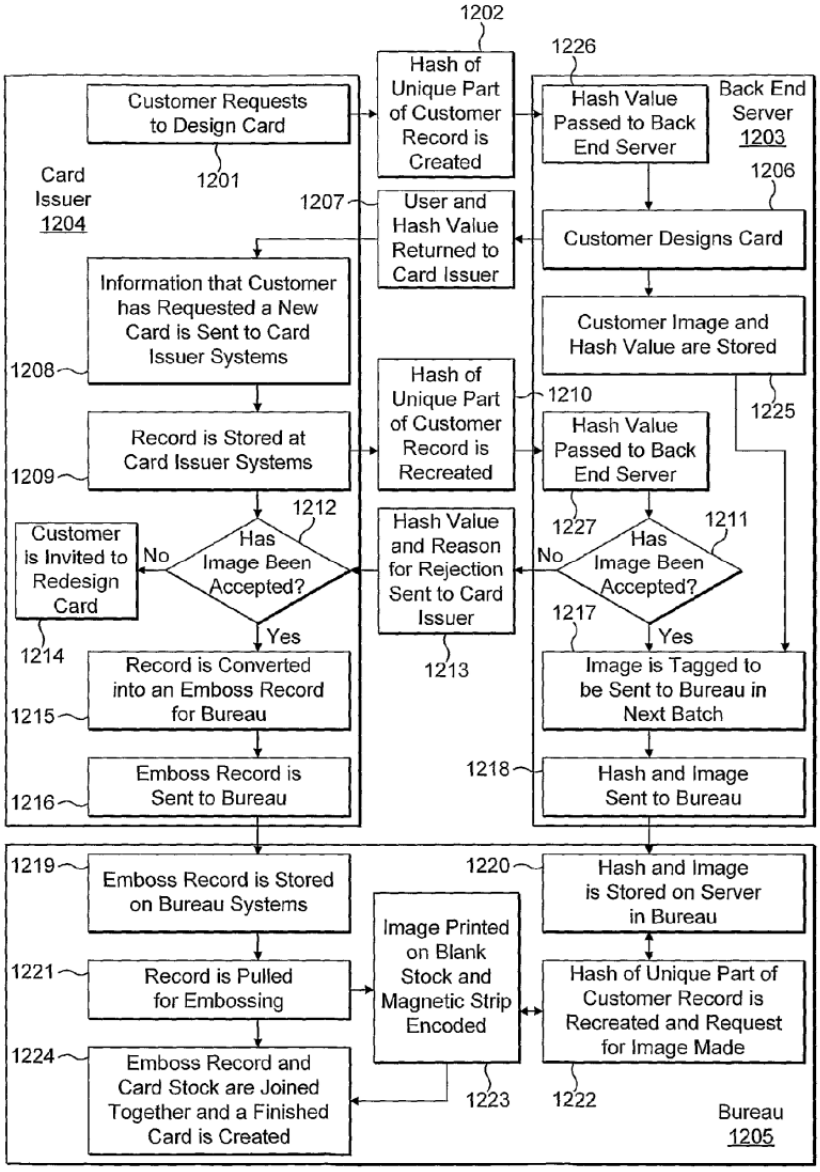
1202
Hash of Unique Part of Customer Record is Created
1226
Hash Value Passed to Back End Server
Back End Server 1203
Customer Requests to Design Card
1201
Card Issuer 1204
1207
User and Hash Value Returned to Card Issuer
1206
Customer Designs Card
Information that Customer has Requested a New Card is Sent to Card Issuer Systems
1208
Customer Image and Hash Value are Stored
1225
Hash of Unique Part of Customer Record is Recreated
1210
Hash Value Passed to Back End Server
Record is Stored at Card Issuer Systems
1209
1212
Has Image Been Accepted?
No
Customer is Invited to Redesign Card
1214
Yes
Hash Value and Reason for Rejection Sent to Card Issuer
1213
1227
1211
Has Image Been Accepted?
No
1217
Yes
Record is Converted into an Emboss Record for Bureau
1215
Image is Tagged to be Sent to Bureau in Next Batch
Emboss Record is Sent to Bureau
1216
1218
Hash and Image Sent to Bureau
1219
Emboss Record is Stored on Bureau Systems
1220
Hash and Image is Stored on Server in Bureau
Image Printed on Blank Stock and Magnetic Strip Encoded
1221
Record is Pulled for Embossing
Hash of Unique Part of Customer Record is Recreated and Request for Image Made
1224
Emboss Record and Card Stock are Joined Together and a Finished Card is Created
1223
1222
Bureau 1205

FIG. 12

2. Undisputed and disputed claim terms

I believe that identifying the "undisputed" and "disputed" claim terms—albeit without the parties' supporting comments or citations—will help clarify the claims of the two patents-in-suit that Serverside alleges that the Iowa Defendants are infringing, when I set out the claims at issue below. I begin with the nine undisputed claim terms.

For the first seven "undisputed" claim terms, the parties have adopted the claim term constructions determined by Judge Andrews in his October 2, 2012, Order on claim construction in the Delaware action. *See* Joint Claim Terms Submission (docket no. 123), Exhibit A, n.1; Defendants' Appendix (docket no. 124), Exhibit 6 (Judge Andrews's Order). They have agreed upon the constructions of two more "undisputed" claim terms.

UNDISPUTED CLAIM TERMS			
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Agreed Construction**
1	"financial transaction card"	'199: 1, 2, 9, 14-16, 18, 22, 25, 29 '490: 1, 2, 9, 14-16, 18, 22, 25, 29-31	"a transaction card (e.g., credit card, debit card, ATM card, or similar card), but not a prepaid bearer card"
2	"financial record of the remote customer that personalized the image"	'199: 1 '490: 1	"record of financial information of the customer that personalized the image"
3	"one-way code"	'199: 1	"a hash value created from customer information"
4	"image processing means for providing an image, produced based on said instructions for manipulation, for application to the financial transaction card"	'490: 30-31	Means plus function term, with the function being "providing an image, based on instructions for manipulation, for application to the financial transaction card," and the associated structure being "an image processor (see, e.g., back end software 110 and image manipulation emulator 256)"

UNDISPUTED CLAIM TERMS			
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Agreed Construction**
5	"means for embedding the customer identifier in the personalized image"	'199: 25 '490: 25	Means plus function term, with the function being "embedding the customer identifier in the personalized image" and the associated structure being "a back end server (such as server 1103 or 1203) that embeds the customer identifier in the personalized image, for example by embedding the identifier in a bar code, machine readable code, or metadata"
6	"computer program means for presenting to a remote customer the remote user interface" "computer program means for presenting to a remote customer a user interface" "computer program means for presenting to a remote user an user interface"	'199: 30 '490: 30-31	The three phrases are means plus function claim terms, with the function being "presenting to a remote customer or remote user a user interface" and the associated structure being "a user interface (see, e.g., front end software 105 and Figs. 3-10)"
7	"image instruction means for receiving instructions for manipulation of an image file. . . ." (The language following this phrase differs somewhat in the 3 claims where it appears.)	'199: 30 '490: 30-31	The phrase is a means plus function claim term, with the function being "receiving instructions for manipulation of an image file" and the associated structure being "an image compilation server coupled to a communications link (see, e.g., image compilation server 108)"
8	"an identifier selected from a secure unique identifier and a one-way code"	'199: 1	"a customer identifier that is chosen from one of two available options: a secure unique identifier or a one-way code"
9	"instructions defining said plurality of manipulations applied to the graphical representation"	'199: 29 '490: 29	"instructions for implementing all of the manipulations that a remote user applies to a graphical representation on a remote terminal"

The three disputed claim terms and the parties' proposed constructions are set out below, again without the parties' comments or supporting citations.

DISPUTED CLAIM TERMS				
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Serverside's Proposed Construction**	**Iowa Defendants' Proposed Construction**
1	"customer identifier that corresponds to the remote customer that personalized said image" "customer identifier corresponding to the remote customer"/ "customer identifier that corresponds to the remote customer" "unique identifier corresponding to the remote user"	'199: 1-4, 6-8, 10-13, 15, 17-18, 20-21, 24-28 '490: 1-4, 6-8, 10-13, 15, 17-18, 20-21, 24-28, 30-31	No construction required. If construed, then: "information used to identify the remote customer or user"	"a unique code, but not a randomly generated alphanumeric code, generated by performing a transformation on a customer's financial account information, such as the customer's name or account number, but not generated using information provided by the customer"
2	"secure unique identifier"	'199: 1	No construction required. If construed, then: "unique identifier which is secure"	Indefinite. In the alternative, if not indefinite: "encrypted customer information"
3	"encrypted customer information"/ "encrypted remote user information"	'490: 1, 29-31	No construction required. If construed, then: "customer or remote user information which has been encrypted or encoded"	"a unique code, but not a randomly generated alphanumeric code, generated within a secure environment by performing a transformation on a customer's financial account information"

3. The claims at issue

Serverside accuses the Iowa Defendants of directly and indirectly infringing claims **1**, **2**, **9**, **14-16**, **18**, **22**, **25**, **29**, and **30** of the '199 patent and claims **1**, **2**, **9**, **14-16**, **18**, **22**, **25**, and **29-31** of the '490 patent. I think that the most effective way to

present these patent claims, when they are so similar, is side-by-side, with "undisputed" claim terms in **bold**, "disputed" claim terms (or portions thereof) in *italics*, and claim language that differs between the two patents underlined.

PATENT CLAIMS ALLEGEDLY INFRINGED	
'199 Patent Claims	**'490 Patent Claims**
What is claimed is:	What is claimed is:
1. Computerized **financial transaction card** production equipment operable to apply one or more personalized images to a **financial transaction card**, the production equipment comprising: a module configured to receive a personalized image of a customer, the image being received from an image processor computer arranged to facilitate image personalization by remote customers; a module configured to receive a *customer identifier that corresponds to the remote customer that personalized said image*; a module configured to receive a **financial record of the remote customer that personalized the image**; a card printer arranged to print images on card material and equipment configured to apply financial information from the financial record to the card material; and a controller operable, based on said *customer identifier*, to cause printing of said personalized customer image onto the card material and to cause application of relevant financial information from the financial record onto the card material, wherein the *customer identifier* comprises **an identifier selected from a *secure unique identifier* and a one-way code**.	**1**. Computerized **financial transaction card** production equipment operable to apply one or more personalized images to a **financial transaction card**, the production equipment comprising: a module configured to receive a personalized image of a customer, the image being received from an image processor computer arranged to facilitate image personalization by remote customers; a module configured to receive a *customer identifier that corresponds to the remote customer that personalized said image*; a module configured to receive a **financial record of the remote customer that personalized the image**; a card printer arranged to print images on card material and equipment configured to apply financial information from the financial record to the card material; and a controller operable, based on said *customer identifier*, to cause printing of said personalized customer image onto the card material and to cause application of relevant financial information from the financial record onto the card material; wherein the *customer identifier* encompasses *encrypted customer information*.

PATENT CLAIMS ALLEGEDLY INFRINGED	
'199 Patent Claims	**'490 Patent Claims**
2. Computerized **financial transaction card** production equipment as in claim **1**, wherein said image processor computer is arranged to provide the personalized image in association with the relevant *customer identifier*, and wherein the module configured to receive the image is configured to also receive the associated *customer identifier*.	**2**. [Identical]
9. Computerized **financial transaction card** production equipment as in claim **1**, wherein equipment configured to apply financial information from the financial record to the card material comprises an encoder.	**9**. [Identical]
14. Computerized **financial transaction card** production equipment as in claim **1**, wherein the image processor computer is arranged to facilitate customer upload of images for personalization.	**14**. [Identical]
15. Computerized **financial transaction card** production equipment as in claim **14**, wherein the image processor computer comprises code for assigning the *customer identifier* to a login session of a customer.	**15**. [Identical]
16. Computerized **financial transaction card** production equipment as in claim **1**, wherein the image processor computer is arranged to facilitate customer selection of images from an image library.	**16**. [Identical]
18. Computerized **financial transaction card** production equipment as in claim **1**, configured to connect to a computer system of a card issuer comprising a module to generate the *customer identifier*.	**18**. [Identical]
22. Computerized **financial transaction card** production equipment as in claim **1**, wherein the equipment performing application of financial information from the financial record to the card material comprises an encoder for encoding a magnetic strip of the card with financial information from the financial record.	**22**. [Identical]

PATENT CLAIMS ALLEGEDLY INFRINGED	
'199 Patent Claims	**'490 Patent Claims**
25. Computerized **financial transaction card** production equipment as in claim **1**, wherein the image processor computer comprises **means for embedding the *customer identifier* in the personalized image**.	**25**. [Identical]
29. Computer apparatus for producing personalized **financial transaction card**s, the computer apparatus comprising: a server for generating a browser-based user interface for displaying on a remote terminal a graphical representation of at least a portion of an image, said interface being capable of effecting a plurality of manipulations to the graphical representation; an internet communications link coupling the remote user interface to an image processor, said link being operable to receive **instructions defining said plurality of manipulations applied to the graphical representation** from the remote terminal; an image processor operable to access the image to apply manipulations emulating those applied to the graphical representation according to the instructions; and the computerized **financial transaction card** production equipment of claim **1** operable to apply the resulting image to a **financial transaction card**.	**29**. A computer system for producing personalized **financial transaction card**s, the computer system comprising: a server for generating a browser-based user interface for displaying on a remote terminal a graphical representation of at least a portion of an image, said interface being capable of effecting a plurality of manipulations to the graphical representation; an internet communications link coupling the remote user interface to an image processor, said link being operable to receive **instructions defining said plurality of manipulations applied to the graphical representation** from the remote terminal; an image processor operable to access the image to apply manipulations emulating those applied to the graphical representation according to the instructions; **financial transaction card** production equipment operable to apply the resulting image to a **financial transaction card**; and the image being associated with a *user identifier* comprising *encrypted customer information*.

PATENT CLAIMS ALLEGEDLY INFRINGED	
'199 Patent Claims	**'490 Patent Claims**
30. The computer apparatus of claim **29**, further comprising: **computer program means for presenting to a remote customer the remote user interface**; and **image instruction means for receiving instructions for manipulation of an image file**, the instructions being based on manipulations performed by the remote customer with regard to a representative version, on the remote user interface, of the image that is contained in the file.	**30**. A system for operating a computer to facilitate production of a personalized **financial transaction card**, the system comprising: **computer program means for presenting to a remote customer a user interface**; **image instruction means for receiving instructions for manipulation of an image file**, the instructions being based on manipulations performed by the remote customer with regard to a representative version, on the user interface, of the image that is contained in the file; **image processing means for providing an image, produced based on said instructions for manipulation, for application to the financial transaction card**, the image being associated with a *customer identifier corresponding to the remote customer*, and wherein the *customer identifier* comprises *encrypted customer information*.

PATENT CLAIMS ALLEGEDLY INFRINGED	
'199 Patent Claims	**'490 Patent Claims**
[No Claim **31**]	**31**. A system for operating a computer to facilitate production of a personalized **financial transaction card**, the system comprising: **computer program means for presenting to a remote user an user interface**; **image instruction means for receiving instructions for manipulation of an image file**, the instructions being based on manipulations performed by the remote user with regard to a representative version, on the user interface, of the image that is contained in the file; **image processing means for providing an image, produced based on said instructions for manipulation, for application to the financial transaction card**, the image being associated with an *unique identifier corresponding to the remote user*, wherein the *unique identifier* is used to obtain the associated image and provide it to a printer for printing the image on to the blank card material, and wherein the *customer identifier* comprises *encrypted remote user information*.

II. LEGAL ANALYSIS

A. Undisputed Claim Terms

As noted above, the Delaware court has already construed several terms of the patents-in-suit, and the parties have adopted here that court's constructions of seven claim terms. The Federal Circuit Court of Appeals has observed,

> Given "the importance of uniformity in the treatment of a given patent," *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), this court would be remiss to overlook another district court's construction of the same claim terms in the same

> patent as part of this separate appeal. In the interest of uniformity and correctness, this court consults the claim analysis of different district courts on the identical terms in the context of the same patent.

Finisar Corp. v. DirecTV Group, Inc., 523 F.3d 1323, 1329 (Fed. Cir. 2008). Likewise, here, "[i]n the interest of uniformity and correctness, this court consults the claim analysis of [the Delaware court] on the identical terms in the context of the same patent" in this separate *Markman* proceeding. *Cf. id.* Here, I see no reason to depart from the constructions by the Delaware court of identical terms in the context of the same patent. Moreover, I have not found the Delaware court's constructions to be lacking in support in the language of the claims, specifications, or prosecution history of the patents, which might have given me a reason to depart from its constructions.

As to the remaining two "undisputed" terms, the parties have agreed between themselves on the constructions of those terms. The Federal Circuit Court of Appeals has observed, "[W]here, as here, the parties agree to a claim construction that is adopted by the district court, and neither party disputes that construction on appeal, we decline to raise an issue *sua sponte* that the parties have not presented." *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1347 n.2 (Fed. Cir. 1999). Likewise, here, where the parties have agreed on certain constructions, and neither party now disputes those constructions, I decline to raise an issue *sua sponte* that the parties have not presented. Moreover, I have not found the parties' agreed constructions to be lacking in support in the language of the claims, specifications, or prosecution history of the patents, which might have given me a reason to depart from their constructions.

Therefore, I adopt the nine "undisputed" claim constructions as my own constructions of those terms.

B. Disputed Claim Terms

The parties do dispute the constructions of three patent claim terms. The Iowa Defendants assert that, where the parties dispute the scope of a claim term, the court should construe the term to resolve that dispute, citing *02 Micro Int'l, Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361-62 (Fed. Cir. 2008). Serverside argues that I can resolve any dispute by concluding that no construction of the claim term in question is required, but I do not need to restate every claim term, citing, *inter alia*, *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997).

I agree with Serverside that *02 Micro International* stands only for the propositions that resolution of a dispute about construction is for the court, not the jury, and that the court is required to generate a "construction" of a claim term, and determine what claim scope is appropriate in the context of the patent-in-suit, only when the "ordinary" meaning of the term does not resolve the parties' dispute. *See 02 Micro Int'l*, 521 F.3d at 1361. In that case, the court also observed, "We . . . recognize that district courts are not (and should not be) required to construe every limitation present in a patent's asserted claims." *Id.* at 1362. Furthermore, the Federal Circuit Court of Appeals explained in *U.S. Surgical* that "[t]he *Markman* decisions do not hold that the trial judge must repeat or restate every claim term in order to comply with the ruling that claim construction is for the court. Claim construction is . . . not an obligatory exercise in redundancy." 103 F.3d at 1568. Therefore, I must consider the proper construction of the three "disputed" claim terms, although I do not necessarily have to construe the terms by substituting some other language for terms that have their ordinary meaning in the context of the patent.

Serverside suggests that whether or not the jury would understand the claim terms without construction is determinative of whether or not I should construe the claim terms. I disagree. As explained more fully below, the standard for claim

construction is how claim terms would be understood by "persons skilled in the art in question at the time of the invention." *Accent Packaging, Inc. v. Leggett & Platt, Inc.*, ___ F.3d ___, 2013 WL 407363, *5 (Fed. Cir. Feb. 4, 2013). Nevertheless, "[t]he terms, as construed by the court, must 'ensure that the jury fully understands the court's claim construction rulings and what the patentee covered by the claims.'" *Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010) (quoting *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1366 (Fed. Cir. 2004)).

1. Standards For Patent Claim Construction

a. Function and types of claims

"It is the claims that define the metes and bounds of the patentee's invention." *Thorner v. Sony Computer Entertainment America, L.L.C.*, 669 F.3d 1362, 1367 (Fed. Cir. 2012) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc)). Patent claims may be "independent" or "dependent." *See* 35 U.S.C. § 112(c).[2] An "independent" claim does not require reference to any other claim as the starting place for the invention it claims;[3] rather, it should contain (1) "[a] preamble

[2] Pursuant to Pub. L. 111-29, § 4(c), Sept. 16, 2011, 125 Stat. 296, as of September 16, 2012, the provisions of § 112, which were formerly identified by paragraph numbers, were recodified into subsections designated alphabetically. Thus, § 112(c) now contains the authorization of "independent" and "dependent" claims formerly found in § 112, ¶ 3.

[3] The Federal Circuit Court of Appeals apparently knows an "independent" claim when it sees one, because finding a clear definition of an "independent" claim in Federal Circuit case law has proved far more difficult than I would have imagined, and the relevant statute and federal regulation also are not particularly helpful. As one commentator, a patent examiner, recently observed,

> [B]ecause [35 U.S.C. §] 112 and [35] C.F.R. [§] 1.75 are silent on the matter, two definitions of independent claim have emerged:

comprising a general description of all the elements or steps of the claimed combination which are conventional or known," (2) "[a] phrase such as 'wherein the improvement [invention, apparatus, method, or process] comprises,'" and (3) "[t]hose elements, steps and/or relationships which constitute that portion of the claimed combination which the applicant considers as the new or improved portion." 37 C.F.R. § 1.75(e);

> • An independent claim is complete in itself without reference to another claim.
>
> • An independent claim may incorporate by reference the subject matter of another claim.
>
> As a matter of classical logic, there is an incompatibility between the two definitions. Taken together, the definitions are contradictory; therefore, they both cannot be true.

Jason M. Nolan, *Formalism And Patent Claim Drafting: The Status Of De Facto Independent Claims Under The Fourth Paragraph Of 35 U.S.C. § 112*, 19 TEX. INTELL. PROP. L.J. 263, 275 (Winter 2011) (footnote omitted) (proposing "a definition for independent claim that would reduce ambiguity in claim construction, eliminate one of the contradictory definitions, and restore the contrary relationship between independent and dependent claims"). This commentator proposes defining an "independent" claim as "complete in itself without reference to another claim." *Id.* at 294.

My explanation of an "independent" claim here, on the other hand, considers the possibility that a claim may be independent if it does not require another claim as its starting point, but merely incorporates by reference the subject matter of another claim as one of its limitations, more in keeping with one of the definitions cited by the commentator. I do not, however, take a firm position on the matter. This issue may be of more than academic interest here—eventually, if not immediately—because Serverside asserts that "claims 1 and 29 of the '199 patent, and claims 1 and 29-31 of the '490 patent, are independent," Plaintiffs' Opening Brief at 3, notwithstanding that claim **29** of the '199 patent expressly incorporates "the computerized financial transaction card production equipment of claim **1** operable to apply the resulting image to a financial transaction card." In contrast, the Iowa Defendants assert that only claim **1** of the '199 patent is "independent," although they agree that claims **1** and **29-31** of the '490 patent are "independent." Defendants' Opening Brief at 1.

see Monsanto Co. v. Syngenta Seeds, Inc., 503 F.3d 1352, 1357 (Fed. Cir. 2007) (citing this regulation). On the other hand, the relevant statute specifically provides that "a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed." 35 U.S.C. § 112(d) (formerly § 112, ¶ 4). The Federal Circuit Court of Appeals has explained, "A claim's status as dependent or independent depends on the substance of the claim in light of the language of § 112[(d)], and not the form alone." *Monsanto Co.*, 503 F.3d at 1357.

b. The two-step patent infringement analysis

The Federal Circuit Court of Appeals has explained that, "[i]n [patent] infringement cases, the court first interprets the claims to determine their scope and meaning." *Presidio Components, Inc. v. American Tech. Ceramics Corp.*, 702 F.3d 1351, 1358 (Fed. Cir. 2012) (citing *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998) (en banc)). "Next, the jury compares the properly construed claims to the allegedly infringing device." *Id.* In this two-step process, claim construction is for the court to determine, as a matter of law, and review of its constructions is de novo. *Cybor Corp.*, 138 F.3d at 1456.[4] "'Claim construction is a

[4] As the Federal Circuit Court of Appeals has cautioned,

> Claim construction is a matter of law, so that an attorney's proposed claim construction is subject to Rule 11(b)(2)'s requirement that all legal arguments be nonfrivolous. *Antonious v. Spalding & Evenflo Cos., Inc.*, 275 F.3d 1066, 1071 (Fed. Cir. 2002). Reasonable minds can differ as to claim construction positions and losing constructions can nevertheless be nonfrivolous. But, there is a threshold below which a claim construction is "so unreasonable that no reasonable litigant could believe it would succeed," *iLor,*

matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement.'" *02 Micro Int'l*, 521 F.3d at 1362 (quoting *U.S. Surgical*, 103 F.3d at 1568). In its construction of claim terms, the district court must furnish "'sufficient findings and reasoning to permit meaningful appellate scrutiny.'" *OSRAM Sylvania, Inc. v. American Induction Techs., Inc.*, 701 F.3d 698, 707 (Fed. Cir. 2012) (quoting *Nazomi Communs., Inc. v. Arm Holdings, PLC*, 403 F.3d 1364, 1371 (Fed. Cir. 2005)).

c. The claim construction process

"Claim terms are construed in accordance with their usage in the patent specification, and as elaborated in the prosecution history." *Edwards Lifesciences AG v. CoreValve, Inc.*, 699 F.3d 1305, 1312 (Fed. Cir. 2012) (citing *Phillips*, 415 F.3d at 1314). As the Federal Circuit Court of Appeals very recently explained,

> Claim terms are generally given their ordinary meaning as understood by persons skilled in the art in question at the time of the invention. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). "The claims, of course, do not stand alone." *Id.* at 1315. "[T]he specification 'is always highly relevant to the claim construction analysis. Usually it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

> *LLC v. Google, Inc.*, 631 F.3d 1372, 1378 (Fed. Cir. 2011), and thus warrants Rule 11 sanctions.

Raylon, L.L.C. v. Complus Data Innovations, Inc., 700 F.3d 1361, 1368 (Fed. Cir. 2012). Some of the claim constructions proffered in this case may be perilously close to this "reasonableness" limit.

Accent Packaging, Inc. v. Leggett & Platt, Inc., ___ F.3d ___, 2013 WL 407363, *5 (Fed. Cir. Feb. 4, 2013).

i. Consideration of the claims and the specification

More specifically, "'[t]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which [it] appears, but in the context of the entire patent, including the specification.'" *Deere & Co. v. Bush Hog, L.L.C.*, ___ F.3d ___, ___, 2012 WL 6013405, *2 (Fed. Cir. Dec. 4, 2012) (quoting *Phillips*, 415 F.3d at 1313). "While claim terms are understood in light of the specification, a claim construction must not import limitations from the specification into the claims." *Id.* (citing *Phillips*, 415 F.3d at 1323). To put it another way, "although the specification often describes very specific embodiments of the invention, [the Federal Circuit Court of Appeals has] repeatedly warned against confining the claims to those embodiments." *Phillips*, 415 F.3d at 1323; *Accent Packaging*, ___ F.3d at ___, 2013 WL 407363 at *6 (citing *Phillips*, 415 F.3d at 1323). On the other hand, "[b]ecause the patentee is required to define precisely what his invention is . . . , it is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms." *Phillips*, 415 F.3d at 1312; *see also Soverain Software L.L.C. v. Newegg, Inc.*, ___ F.3d ___, ___, 2013 WL 216406, *6 (Fed. Cir. Jan. 22, 2013) (quoting this statement from *Phillips*).[5]

[5] Some of the claims that Serverside alleges that the Iowa Defendants have infringed are "means-plus-function" claims. Means-plus-function limitations must be construed in a two-step process:

> "First, the court must determine the claimed function. Second, the court must identify the corresponding structure in the written description of the patent that performs the function." *Applied Med. Res. Corp. v. U.S. Surgical Corp.*,

ii. The doctrine of "claim differentiation"

The doctrine of "claim differentiation" also informs the construction of claim terms. This doctrine stems from "'the common sense notion that different words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope.'" *Seachange Int'l, Inc. v. C–COR, Inc.*, 413 F.3d 1361, 1368–1369 (Fed. Cir. 2005) (quoting *Karlin Tech. Inc. v. Surgical Dynamics, Inc.*, 177 F.3d

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> 448 F.3d 1324, 1332 (Fed. Cir. 2006) (internal citations omitted). . . .
>
> A structure disclosed in the specification qualifies as a "corresponding structure" if the specification or the prosecution history "clearly links or associates that structure to the function recited in the claim." *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997). Even if the specification discloses a "corresponding structure," the disclosure must be adequate; the patent's specification must provide "an adequate disclosure showing what is meant by that [claim] language. If an applicant fails to set forth an adequate disclosure, the applicant has in effect failed to particularly point out and distinctly claim the invention as required by the second paragraph of section 112." *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (en banc). Under 35 U.S.C. § 112 ¶ 2 and ¶ 6, therefore, "a means-plus-function clause is indefinite if a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim." *AllVoice Computing PLC v. Nuance Commc'ns., Inc.*, 504 F.3d 1236, 1241 (Fed. Cir. 2007) (citing *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1381–82 (Fed. Cir. 1999)).

Noah Sys., 675 F.3d at 1311-12. Here, however, Serverside contends that Judge Andrews has construed the only means-plus-function claim terms at issue in this case in the Delaware action, so that I need not do so.

968, 971–72 (Fed. Cir. 1999)). As to the relationship between independent and dependent claims, for purposes of claim term construction, "[a]n independent claim impliedly embraces more subject matter than its narrower dependent claim." *Intamin Ltd. v. Magnetar Techs., Corp.*, 483 F.3d 1328, 1335 (Fed. Cir. 2007). Indeed, "[i]t is axiomatic that a dependent claim cannot be broader than the claim from which it depends." *Alcon Research, Ltd. v. Apotex, inc.*, 687 F.3d 1362, 1367 (Fed. Cir. 2012). Thus, "[t]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not in the independent claim." *Phillips*, 415 F.3d at 1315. Furthermore, "[w]here . . . the sole difference between the independent claim and the dependent claims is the limitation that one party is trying to read into the independent claim, 'the doctrine of claim differentiation is at its strongest.'" *SanDisk Corp. v. Kingston Tech. Co., Inc.*, 695 F.3d 1348, 1361 (Fed. Cir. 2012) (quoting *Liebel–Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004)). The converse is also true: "Where a particular construction of an independent claim would nullify claims that depend from it, the doctrine of claim differentiation creates a presumption that such a construction is improper." *Marine Polymer Techs., Inc. v. HemCon, Inc.*, 672 F.3d 1350, 1368 (Fed. Cir. 2012). Similarly, there is a presumption that two independent claims have different scope when different words or phrases are used in those claims. *See Kraft Foods, Inc. v. International Trading Co.*, 203 F.3d 1362, 1365-69 (Fed. Cir. 2000). Nevertheless, the presumptions arising from the doctrine of claim differentiation can be overcome by the written description and the prosecution history. *Id.* at 1368.

iii. The relationship between construction and the "definiteness" requirement

As noted above, "[b]ecause the patentee is required to define precisely what his invention is . . . , it is unjust to the public, as well as an evasion of the law, to construe

it in a manner different from the plain import of its terms." *Phillips*, 415 F.3d at 1312. As this statement suggests, claim term construction and the "definiteness" requirement of 35 U.S.C. § 112(b) (formerly § 112, ¶ 2) are related. *See, e.g., Noah Sys., Inc. v. Intuit, Inc.*, 675 F.3d 1302, 1311 (Fed. Cir. 2012) (identifying § 112(b) as the source of the "definiteness" requirement). Section 112(b) requires that "[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention." The definiteness requirement seeks to "ensure that the claims delineate the scope of the invention using language that adequately notifies the public of the patentee's right to exclude." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005). The definiteness requirement "is drawn from the court's performance of its duty as the construer of patent claims." *Atmel Corp. v. Info. Storage Devices*, 198 F.3d 1374, 1378 (Fed. Cir. 1999). A determination of "indefiniteness," like claim term construction, is a question of law, and it is "in effect part of claim construction." *Eplus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509 (Fed. Cir. 2012). However, "[t]he definiteness requirement does not compel absolute clarity" in claim language, because "[o]nly claims 'not amenable to construction' or 'insolubly ambiguous' are indefinite." *Datamize*, 417 F.3d at 1347. Thus, "[t]he reviewing tribunal must determine whether a person experienced in the field of the invention would understand the scope of the claim when read in light of the specification." *Energizer Holdings, Inc. v. Int'l Trade Comm'n*, 435 F.3d 1366, 1369 (Fed. Cir. 2006); *accord Halliburton Energy Servs., Inc. v. M–I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008) (explaining that overcoming the presumption of patent validity, based on "indefiniteness," demands clear and convincing evidence that "a skilled artisan could not discern the boundaries of the claim").

iv. The role of prosecution history

Prosecution history is also relevant to the meaning of patent claim terms. *Edwards Lifesciences AG*, 699 F.3d at 1312 (citing *Phillips*, 415 F.3d at 1314). Thus, "prosecution history estoppel" or "prosecution disclaimer" bars a patentee from recapturing patent scope that was lost by making a narrowing amendment to secure the patent. *See Energy Transp. Group, Inc. v. William Demant Holding A/S*, 697 F.3d 1342, 1359 (Fed. Cir. 2012). "When a patentee makes a 'clear and unmistakable disavowal of scope during prosecution,' a claim's scope may be narrowed under the doctrine of prosecution disclaimer." *Grober v. Mako Prods., Inc.*, 686 F.3d 1335, 1341 (Fed. Cir. 2012) (citing *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374–75 (Fed. Cir. 2008)). "'An ambiguous disclaimer, however, does not advance the patent's notice function or justify public reliance, and the court will not use it to limit a claim term's ordinary meaning.'" *01 Communique Lab., Inc. v. LogMein, Inc.*, 687 F.3d 1292, 1297 (Fed. Cir. 2012) (quoting *SanDisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1287 (Fed. Cir. 2005); *see also Elbex Video, Ltd. v. Sensormatic Electronics Corp.*, 508 F.3d 1366, 1371 (Fed. Cir. 2007) (explaining that, as a general rule, prosecution history cannot overcome the natural reading of the claim when the alleged disavowal of a particular meaning in the prosecution history is ambiguous). Furthermore, "'[t]here is no "clear and unmistakable" disclaimer if a prosecution argument is subject to more than one reasonable interpretation, one of which is consistent with a proffered meaning of the disputed term.'" *Id.* (again quoting *SanDisk*, 415 F.3d at 1287). On the other hand, the patentee must overcome a presumption that a narrowing amendment was made to secure the patent, and the patentee can only do so by making a "strong showing" that there is some other explanation for the limitation. *Energy Transp. Group*, 697 F.3d at 1359.

v. The role of dictionaries and other sources

"[D]efinitions based on dictionaries, treatises, industry practice, and the like often are important aids in interpreting claims." *ArcelorMittal France*, 700 F.3d at 1320. However, like prosecution history, "they may not be 'used to contradict claim meaning that is unambiguous in light of the intrinsic evidence.'" *Id.* (quoting *Phillips*, 415 F.3d at 1324).

d. The ultimate standard

Ultimately, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be [ ] the correct construction." *Phillips*, 415 F.3d at 1316.

With these principles in mind, I turn to construction of the disputed claim terms.

2. "Customer identifier corresponding to the remote customer"

a. Proposed constructions

The first disputed claim term is "customer identifier that corresponds to the remote customer that personalized said image." The claim term, the claims in which it appears, and the parties' contrasting constructions are set out in the following chart.

No.	Claim Term/Phrase	Relevant Claim(s)	Serverside's Proposed Construction	Iowa Defendants' Proposed Construction
1	"customer identifier that corresponds to the remote customer that personalized said image" "customer identifier corresponding to the remote customer"/ "customer identifier that corresponds to the remote customer" "unique identifier corresponding to the remote user"	'199: 1-4, 6-8, 10-13, 15, 17-18, 20-21, 24-28 '490: 1-4, 6-8, 10-13, 15, 17-18, 20-21, 24-28, 30-31	No construction required. If construed, then: "information used to identify the remote customer or user"	"a unique code, but not a randomly generated alphanumeric code, generated by performing a transformation on a customer's financial account information, such as the customer's name or account number, but not generated using information provided by the customer"

b. Arguments of the parties

In its opening brief, Serverside argued, first, that this term needs no construction, because it will be easily understood by a lay jury—a contention that I rejected above. If I decide that some construction is required, however, Serverside argued that its construction of the term as "information used to identify the remote customer or user" effectively captures the broad definition of the term as used in the specification, which discloses several representative embodiments. Serverside argued that the Iowa Defendants' proposed construction is unduly complex and improperly imports terms found nowhere in the specification in relation to a customer identifier. Serverside also argued that the Iowa Defendants' construction impermissibly seeks to narrow the term by including the phrase "not a randomly generated alphanumeric code," which would fall within the embodiments described in the specification. Serverside also pointed out that nothing in the specification requires that a "customer identifier" must necessarily be based on "a customer's financial account information."

In contrast, in their opening brief, the Iowa Defendants postulated that, in light of the specification and the prosecution history, the "customer identifier" term must meet the following requirements: (1) it must be "unique," (2) it must not be a randomly generated alphanumeric code, (3) it cannot be generated using information provided by the customer, and (4) it must be created by performing a transformation on a customer's financial account information. The Iowa Defendants argued that any proper construction must incorporate Serverside's express limitations and disclaimers and that their proposed construction does just that.

In its rebuttal brief, Serverside disputed each of the purported limitations on this term asserted by the Iowa Defendants. Serverside argued that, although the patent discloses many examples of a "customer identifier," nothing in the claim language, the specification, or the prosecution history limits it solely to those examples. Serverside also argued that the Iowa Defendants have focused on short excerpts from prosecution history, taken out of context, instead of remaining centered on the language of the claims themselves.

In their rebuttal brief, the Iowa Defendants reiterated that this term has the four requirements that they have identified. They argued that Serverside contended in the prosecution of the '490 patent that the limitation of the customer identifier encompassing encrypted customer information in combination with the claim as a whole is not disclosed by prior art. They also argued that Serverside's proposed construction simply rearranges the words of the term, but provides no additional clarity to the jury. In short, the Iowa Defendants reiterated that Serverside is ignoring clear and repeated disclaimers in the prosecution history of the patents.

c. Rejection of the Iowa Defendants' construction

It is simplest to begin my construction of the claim term "customer identifier that corresponds to the remote customer that personalized said image" by rejecting as

untenable all of the limitations that the Iowa Defendants seek to impose on the scope and construction of this claim term. The failings of the Iowa Defendants' limitations are manifold.

i. The "uniqueness" requirement

The Iowa Defendants rely on the following statement in the Detailed Description as demonstrating that the "customer identifier" must be "unique":

> In the first step, *the card issuer issues the customer with a unique identifying number* **103** which is passed to an image compilation server **108**, which may (or may not) be operated by a company other than the card issuer. The card issuer associates *the unique customer identifier* **103** with the customer's financial information **104**. This association may be performed in a financial account association table **124** maintained in an environment that is secure from the user interface. The associated customer identifier **103** and financial information **104** are passed to a bank (or other card issuer) printer server **109** via a firewall **102**.

'199 Patent, Detailed Description, 10:65-11:8 (emphasis added by the Iowa Defendants). As Serverside points out, however, the Iowa Defendants overlook the beginning of the pertinent passage, which states that this "first step" is "[i]n the embodiment of FIG. **1**," *id.* at 10:62, so that it is limited to the description of a single embodiment. Thus, the Iowa Defendants have committed the classic error of importing limitations from the specification into the claims. *See Deere & Co.*, ___ F.3d ___, 2012 WL 6013405 at *2 (citing *Phillips*, 415 F.3d at 1313); *Phillips*, 415 F.3d at 1323 ("[A]lthough the specification often describes very specific embodiments of the invention, [the Federal Circuit Court of Appeals has] repeatedly warned against confining the claims to those embodiments."); *accord Accent Packaging*, ___ F.3d ___, 2013 WL 407363 at *6 (citing *Phillips*, 415 F.3d at 1323).

What makes the Iowa Defendants' assertion of a "uniqueness" limitation still less tenable is that the specification discloses another embodiment that expressly "allows a card issuer to avoid the need to create for each customer a unique identifier that must be passed through the card issuer's system." *See* '199 Patent, Detailed Description, 16:5-8 (explaining the embodiment of Figure **12**); *see also id.* at 8:5-8 ("FIG. 12 illustrates a method of operating a computer system for remote manipulation of images, using a hash value to avoid the need for creating and maintaining a unique customer identifier through the card application and printing lifecycle, in accordance with an embodiment of the present invention"); *id.* at 17:13-16 (stating, "In an alternative to the embodiment of FIGS. **11** and **12**, which utilize a unique identifier and a hash value, respectively, other methods of creating a secure identifier may be used."). Thus, not only is the limitation asserted by the Iowa Defendants not supported by the portion of the specification on which they rely, it is plainly contradicted by another portion of the specification. *Deere & Co.*, ___ F.3d ___, 2012 WL 6013405 at *2 ("'[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which [it] appears, but in the context of the entire patent, including the specification.'" (quoting *Phillips*, 415 F.3d at 1313)).

The only reference to the "customer identifier" being "unique" in the *claims* of the '199 patent is in claim **1**, in which the last limitation states, "wherein the customer identifier comprises an identifier selected from a secure *unique* identifier and a one-way code." (emphasis added). This claim language, like the embodiments described in the specification, clearly *contrasts* a "unique" identifier with a "one-way code" identifier, making an assertion that "uniqueness" is required for *all* customer identifiers untenable. Thus, a person experienced in the field of the invention would understand the scope of the claim language to include "customer identifiers" that are "unique," as well as "customer identifiers" that are not "unique," particularly when the disputed claim term

is read in light of the specification explaining that a "one-way code"—which the parties agree must be construed as a "hash value"—is an alternative to creating a "unique" customer identifier. *See Energizer Holdings*, 435 F.3d at 1369 (defining the reviewing tribunal's determination in light of what a person experienced in the field would understand the scope of the claim to be in light of the specification). Claim **31** of the '490 patent does identify the "customer identifier" as "unique," but that embodiment also requires that the "customer identifier" "comprises encrypted remote user information." Thus, the differences between claim **31** of the '490 patent and claim **1** of '199 patent only give rise to a presumption that the two claims have different scope, because they use different words or phrases. *See Kraft Foods*, 203 F.3d at 1365-69. Prior to the *Markman* hearing, the Iowa Defendants had done nothing to rebut that presumption.

In short, I tentatively concluded that there is no "uniqueness" requirement or limitation on this claim term.

ii. Exclusion of a randomly generated alphanumeric code

The Iowa Defendants next assert that the "customer identifier" must exclude "a randomly generated alphanumeric code." This assertion purports to rely on prosecution history, which I agree does inform the construction of claim terms. *See Edwards Lifesciences AG*, 699 F.3d at 1312. However, the Iowa Defendants' assertion of such an exclusion or disclaimer, based on prosecution history, is untenable.

The Iowa Defendants assert that this quotation from the '199 patent prosecution history demonstrates that Serverside disclaimed "a random alphanumeric identifier" to achieve patentability over the Tuchler prior art:

> As discussed above, paragraph [0039] of Tuchler discloses only generating a random alphanumeric identifier which is assigned to the personalized data and used to

> identify an account. Such a random alphanumeric identifier, being random, cannot identify a customer. Accordingly, generating the random alphanumeric identifier cannot be regarded as generating a customer identifier.

Defendants' Exhibit 5 (Remarks, Attorney Docket No. 066371-0071, to Application No. 12/132,516), 13-14. However, as Serverside argues, Tuchler disclosed a method and system for producing a personalized gift card or "bearer card," where a "bearer card . . . [is] not related to a financial account of a customer," but to a card account for the recipient. *Id.* at 10. Moreover, the "personalized data" in question did not identify the "customer," but the information applied to the gift card, such as a greeting, and the *card account*, not the *customer's* account. *Id.* at 12. This purported "disclaimer" does not even create an ambiguity about narrowing the patents-in-suit to exclude "a random alphanumeric code" as a "customer identifier," *see Elbex Video*, 508 F.3d at 1371, nor does it generate a presumption that a narrowing amendment was made to secure the patents. *See Energy Transp. Group*, 697 F.3d at 1359. The cited portions of the prosecution history simply demonstrate that Serverside successfully argued that Tuchler did not teach or suggest the way that the "customer identifier" was comprised in the patents-in-suit. *Id.* (any presumption that a narrowing amendment was made to obtain patentability can be overcome by a "strong showing" that there is another explanation for the purported limitation). Indeed, there is nothing resembling a "clear and unmistakable" disclaimer of a "random alphanumeric code" as a "customer identifier" within the meaning of the patents-in-suit. *Grober*, 686 F.3d at 1341; *01 Communique Lab.*, 687 F.3d at 1297.

Thus, I tentatively concluded that this purported limitation also is not part of the proper construction of this disputed claim term.

iii. Exclusion of generation using information provided by the customer

The Iowa Defendants' third purported limitation on the "customer identifier"—that it cannot be generated using information provided by the customer—is also untenable. The Iowa Defendants again assert that there is support for this limitation in purported disclaimers in the prosecution history. None of the purported disclaimers bear scrutiny, however, as none leads to the conclusion that a "customer identifier" cannot be a login name, an e-mail or physical address, a password, or other customer-supplied information, as the Iowa Defendants contend.

First, the Iowa Defendants point to prosecution history stating that neither text nor images entered by the customer can be regarded as financial information from a financial record of the remote customer. *See* Defendants' Exhibit 5 (Remarks, Attorney Docket No. 066371-0071, to Application No. 12/132,516), 12. This snippet of prosecution history is inapposite, however, because it does not demonstrates that such customer-entered information cannot be regarded as a "customer identifier," it only demonstrates that such information cannot be regarded as "financial information." Moreover, the second purported disclaimer is an acknowledgment that Tuchler discloses a login page for creating or accessing a personalized account including data entry fields for information such as the customer's name or address, but with an assertion that even if this data could be considered a "customer identifier," none of it was used in any way to cause printing of the personalized customer images on a card or to cause application of information to the card. *See id.* at 14. Thus, the second purported disclaimer expressly acknowledges that customer-entered data *could* be a "customer identifier." Indeed, this purported disclaimer is not a disclaimer at all, but a demonstration that Tuchler does not teach the invention of the patents-in-suit, because it does not use the "customer identifier" in the same way. Finally, the third purported

disclaimer is that a person skilled in the art would recognize that the logins for web pages are "accounts" in some sense, but would recognize that they are not the same thing as "financial accounts." *See* Defendants' Exhibit 7 (Remarks, Attorney Docket No. 08667-0037, to Application No. 10/545,833), 20. Again, this is not a disclaimer at all, because it only demonstrates that there is a difference between a login "account" and a "financial account." Furthermore, it is simply a demonstration that Tuchler does not teach the invention of the patents-in-suit, because the "customer identifier" in the patents-in-suit corresponds to the remote customer and is associated with that customer's financial information. *See* '199 Patent, claim **1**.

I tentatively rejected this purported limitation of the disputed claim term.

iv. Transformation on a customer's financial account information

The last limitation that the Iowa Defendants attempt to impose on the "customer identifier" claim term is that it must be created by performing a transformation on a customer's financial account information. This assertion fares even worse than the Iowa Defendants' other arguments concerning construction of this claim term, because the Iowa Defendants completely fail to identify any basis in the claims, the specification, or the prosecution history for this purported limitation on this disputed claim term.

As Serverside points out, the term "transformation" is not used in the specification to describe the generation of a "customer identifier," but to describe the manipulation of an image to be printed on a consumer item. *See* '199 Patent, 9:33-35 ("As a result, the back end software can make *image transformations* that exactly mirror those which are seen on the client machine." (emphasis added)); 9:54-59 ("The preferred embodiment thus allows for on-line *image manipulation* by emulating the browser-based *transformations* (such as re-sizing or overlaying images), made by the

user on a representation of the image, on the server so that the images produced can be used for personalized product creation." (emphasis added)); 12:56-60 ("Upon receiving the *images* in step **243**, the emulator **256** then repeats the completed *transformations* of the customer and creates an image that emulates the one created online, but that uses the original, higher quality graphics." (emphasis added)). *Deere & Co.*, ___ F.3d at ___, 2012 WL 6013405 at *2 (explaining that the claim term must be read in the context of the particular claim in which it appears and in the context of the entire patent, including the specification). As Serverside also points out, claim **1** of both patents recites "a customer identifier that corresponds to the remote customer that personalized the image," but does not use the "customer's financial account" to generate the "customer identifier." Indeed, in some embodiments described in the specification, the "customer identifier" is not generated from, but only "associated" with, the customer's "financial account information," for example, in a "financial account association table." *See* '199 Patent, 4:8-14, 10:62-11:5.

Finally, even assuming that "encryption" of customer account information is a "transformation" of a customer's account information, embodiments in which the "customer identifier" comprises "encrypted customer information by a card issuer encrypting financial account information of a remote customer," *see* '199 Patent, 7:9-11, demonstrate that this is not the *only* form that the "customer identifier" can take. *See Kraft Foods*, 203 fate 1365-69 (explaining that there is a presumption two independent claims have different scope when different words or phrases are used in those claims). Again assuming that this is what the Iowa Defendants mean by "a transformation" of a customer's financial account information, it is also improper to confine claims to a particular embodiment. *Phillips*, 415 F.3d at 1323.

I tentatively concluded that this purported limitation on the disputed claim term was wholly without merit.

d. Rejection of Serverside's construction

While it was easy enough to demonstrate that the Iowa Defendants' construction is untenable, that does not mean that Serverside's construction of the "customer identifier" term as "information used to identify the remote customer or user" is necessarily appropriate. Serverside is correct that the patent discloses numerous representative embodiments of the "customer identifier," so that the term is used broadly and is not limited by the examples disclosed. This does little, however, to help define the proper construction—if any is required. The specific fault that I find with Serverside's construction is that Serverside apparently equates "customer identifier that corresponds" with "information used to identify," but cites no portion of the claims, the specification, or the prosecution history that supports the apparent correlation of "identifier" with "information" and "corresponds" with "used to identify."

e. The tentative construction

What, then, is the proper construction of "customer identifier that corresponds to the remote customer that personalized said image"? Beginning with the "ordinary meaning" of the phrase, in the absence of any showing that the "ordinary meaning" differs from the "ordinary meaning as understood by persons skilled in the art in question," *see Accent Packaging*, ___ F.3d at ___, 2013 WL 407353 at *5, it appears to me that this phrase has three components: (1) "a customer identifier"; (2) "that corresponds to" or "corresponding to"; and (3) "the remote customer." I believe that consideration of each of these three components will lead to the proper construction of the phrase.

As to the first component, "customer identifier," I am reluctant, as a matter of ordinary meaning, to equate "information" with "identifier," or even to equate "information used to identify the remote customer" with "customer identifier," as Serverside suggests. Turning to a standard dictionary, *see ArcelorMittal France*, 700

F.3d at 1320 (recognizing the recourse to a dictionary may be appropriate), an "identifier" is simply "one that identifies," and "identify" has the ordinary meaning "to establish the identity of" someone or something, *see, e.g.,* MERRIAM WEBSTER'S COLLEGIATE DICTIONARY 575 (10th ed. 1995) (definition of "identifier" and definition 2(a) of "identify"), while "information" has the ordinary meaning "facts" or "data," *see, e.g., id.* at 599 ("information," definition 2(a)(3)). Thus, these ordinary meanings of "information" do not indicate any "identification." On the other hand, a more specialized meaning of "information," applicable here, is "a signal or character (as in a communication system or computer) representing data." *Id.* ("information," definition 2(c)(1)). Similarly, a "code," a term used in the claims and specification to describe specific embodiments of the "customer identifier," *see Deere & Co.*, ___ F.3d at ___, 2012 WL 6013405 at *2 (explaining that, *inter alia*, the claim term must be read in the context of the specification), has the ordinary meaning of "a system of signals or symbols for communication." *See, e.g.,* MERRIAM WEBSTER'S COLLEGIATE DICTIONARY at 221 (definition 3(b) of "code"). Thus, the claims and specification of the patents make clear that the "customer identifier" is, in all of the embodiments described, some "signal or character" or group of characters that can be used to "identify" the customer. *See* '199 Patent, claim **1** ("the customer identifier comprises an identifier selected from a secure unique identifier and a one-way code"); claim **3** ("the customer identifier comprises a machine readable code"); claim **4** ("the customer identifier comprises a barcode"); 7:4-6 ("the customer identifier may comprise one of: a one-way code, a unique customer identifier, and encrypted customer information."); *cf. ArcelorMittal France*, 700 F.3d at 1320 (recognizing that dictionary definitions must not be used to contradict the meaning of claim terms that is unambiguous in light of the intrinsic evidence).

In the context of the claims and specification, it appears to me that the second component, "corresponds" or "corresponding," has the ordinary meaning of "match" or "matching." *See, e.g.,* MERRIAM WEBSTER'S COLLEGIATE DICTIONARY at 260 (definition (1)(b) of "correspond"). Indeed, the entire claim term, and its use in the claims and specification, requires that the "customer identifier" *matches with* "the remote customer that personalized said image." *See, e.g.,*'199 Patent, claim **1** ("a module configured to receive a customer identifier that corresponds to the remote customer that personalized said image"); 2:47-53 ("The computer system may further comprise means for associating a unique identifier with a user applying the manipulations to the graphical representation; wherein the internet communications link is operable to transfer the unique identifier between the user interface and the remote image processor.").

The last component, "the remote customer," or more completely, "the remote customer that personalized the image," is the easiest of the three components of this claim term to construe, because the Delaware court has already done so. As noted above, at page 19, the second claim term construed by the Delaware court was "financial record of *the remote customer that personalized the image*." The Delaware court construed the italicized component only by dropping "remote," so that its construction is "record of financial information of *the customer that personalized the image*." I believe that, "in the interest of uniformity and correctness," I should consult the Delaware court's construction of the identical *part* of a claim term in the same patent. *Cf. Finisar Corp.*, 523 F.3d at 1329. Finding no conflict between this construction of "the remote customer that personalized the image" and the claims, specification, or prosecution history, and noting the parties' agreement to it, *see WMS Gaming Inc.*, 184 F.3d at 1347 n.2, I adopt this construction for this component of the claim term.

Consequently, I tentatively concluded that the construction of "customer identifier that corresponds to the remote customer that personalized said image" that "stays true to the claim language and most naturally aligns with the patent's description of the invention," and consequently, is "the correct construction," *Phillips*, 415 F.3d at 1316 (stating this as the ultimate standard for claim construction), is "a signal, character, or group of characters that matches with the customer that personalized the image." I also believe that this construction will "'ensure that the jury fully understands [my] claim construction rulings and what the patentee covered by the claims.'" *Power-One*, 599 F.3d at 1348 (quoting *Sulzer Textil A.G.*, 358 F.3d at 1366).

I display that tentative construction below with the claim term and the parties' differing proposals:

No.	**Claim Term/Phrase**	**Serverside's Proposed Construction**	**Iowa Defendants' Proposed Construction**	**Court's Tentative Construction**
1	"customer identifier that corresponds to the remote customer that personalized said image" "customer identifier corresponding to the remote customer"/ "customer identifier that corresponds to the remote customer" "unique identifier corresponding to the remote user"	No construction required. If construed, then: "information used to identify the remote customer or user"	"a unique code, but not a randomly generated alphanumeric code, generated by performing a transformation on a customer's financial account information, such as the customer's name or account number, but not generated using information provided by the customer"	"a signal, character, or group of characters that matches with the customer that personalized the image"

3. "Secure unique identifier"

At the outset of this *Markman* decision, I poked fun at both Severside's and the Iowa Defendants' constructions of the second "disputed" claim term, "secure unique

identifier." Doing so was not without good reason, as the summary of the parties' arguments for their respective constructions and my analysis below will show.

a. Proposed constructions

The second disputed claim term and the parties' contrasting constructions are, as follows:

No.	Claim Term/Phrase	Relevant Claim(s)	Serverside's Proposed Construction	Iowa Defendants' Proposed Construction
2	"secure unique identifier"	'199: 1	No construction required. If construed, then: "unique identifier which is secure"	Indefinite. In the alternative, if not indefinite: "encrypted customer information"

b. Arguments of the parties

In its opening brief, Serverside argued that this claim term does not require construction, because it is readily understandable to a lay jury. If I determine that some construction is appropriate, Serverside argued that I should construe the term as "unique identifier which is secure," because that construction best captures the ordinary meaning of the term, while the Iowa Defendants' proposed construction improperly imports a limitation from a single claim and the specification, instead of encompassing the broader meaning plainly intended in the claims and specification.

In their opening brief, the Iowa Defendants asserted that this claim term cannot be a "one-way code," because it is the *other* option for the "customer identifier" claimed in claim **1**. The Iowa Defendants argued that the specification teaches only three possible options for a customer identifier: a one-way code, a unique customer identifier, and encrypted customer information. Because claim **1** requires that the customer identifier be either a "secure unique identifier" or a "one-way code," the Iowa Defendants argued that a "secure unique identifier" can only be a "unique

customer identifier" or "encrypted customer information." The problem with this conclusion, the Iowa Defendants argued, is that the construction becomes "circular," because the "customer identifier" must be both "unique" and "secure," as they argued in support of their construction of that claim term. Consequently, the Iowa Defendants contended, if "secure unique identifier" means "unique customer identifier," the claim term now in dispute would not need to use "secure" at all. This leads the Iowa Defendants to the conclusion that, logically, "secure unique identifier" must be another way of identifying the *other* category of secure customer identifier, "encrypted customer information." The Iowa Defendants also misstated Serverside's construction as "unique identifier generated securely," then relied on descriptions of secure generation as pointing to encrypted customer information. The conclusion to be drawn from these "logic games," the Iowa Defendants contended, is that this claim term is indefinite, not least because it can mean any number of things.

In its rebuttal brief, Serverside argued that the Iowa Defendants improperly narrow this disputed claim term. Serverside pointed out that, while the specification does state, *in one embodiment*, that the "customer identifier" comprises one of a one-way code, a unique customer identifier, and encrypted customer information, it would be improper to limit the disputed term to these three options. Serverside argued that only the strained "logic games" employed by the Iowa Defendants lead to the erroneous conclusion that "secure unique identifier" must be another way of identifying "encrypted customer information." Serverside argued that the Iowa Defendants' construction is not supported by the specification. Furthermore, Serverside argued that the Iowa Defendants' "indefiniteness" argument is supported only by the same strained "logic games," but the Iowa Defendants have not overcome the presumption of validity of the patent.

In their rebuttal brief, the Iowa Defendants again relied on their misstatement of Serverside's construction as "unique identifier generated securely." They argued that the patent does not say that there are several ways to generate a unique identifier securely. They then reiterated their argument that "logic games" lead to the conclusion that "secure unique identifier" must mean "encrypted customer information," and/or that this claim term is indefinite.

c. Rejection of the parties' constructions

I think it is sufficient to reject Serverside's construction of "secure unique identifier" as "unique identifier which is secure" on the ground that it is a "Sheldonian construction," similar to explaining "heart-attack-like event" as "an event that's like a heart attack." *See, supra*, p. 3. Thus, this proposed construction clears up nothing, or, to put it in the language of patent law, it utterly fails to "resol[ve] disputed meanings and technical scope, to clarify and . . . explain what the patentee covered by the claims, for use in the determination of infringement.'" *02 Micro Int'l*, 521 F.3d at 1362 (quoting *U.S. Surgical*, 103 F.3d at 1568).

I also reject the Iowa Defendants' construction of "secure unique identifier" as "encrypted customer information" on the ground that it is premised not just on "logic games," but on logical fallacies. First, although the Iowa Defendants are correct that the specification does explain that "the customer identifier may comprise one of: a one-way code, a unique customer identifier, and encrypted customer information," *see* '199 Patent, 7:4-6, this explanation is prefaced by the statement, "In further related embodiments . . . ." *Id*. at 7:4. Thus, the Iowa Defendants again commit the classic error of importing limitations from the specification into the claims. *See Deere & Co.*, ___ F.3d ___, 2012 WL 6013405 at *2 (citing *Phillips*, 415 F.3d at 1313); *Phillips*, 415 F.3d at 1323 ("[A]lthough the specification often describes very specific embodiments of the invention, [the Federal Circuit Court of Appeals has] repeatedly

warned against confining the claims to those embodiments."); *accord Accent Packaging*, ___ F.3d ___, 2013 WL 407363 at *6 (citing *Phillips*, 415 F.3d at 1323). Furthermore, the specification of this particular embodiment plainly distinguishes "unique customer identifier" from "encrypted customer information," so that, even supposing these were the only options that could comprise a "secure unique identifier," there must be some "secure unique identifiers" that are not "encrypted customer information." Similarly, while the specification does describe "encrypted customer information" as "generated within a secure environment," *see* '199 Patent, Summary, 6:48-49, the description of this single embodiment plainly does not mean that all "secure unique identifiers" must be "encrypted customer information generated within a secure environment." *Deere & Co.*, ___ F.3d ___, 2012 WL 6013405 at *2.[6]

Worse still, the Iowa Defendants' construction violates the doctrine of claim differentiation, which stems from "'the common sense notion that different words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope.'" *Seachange Int'l, Inc.*, 413 F.3d at 1368–1369. The claims of the '490 patent expressly claim customer identifiers limited to "encrypted customer information," differentiating those patent claims from the related claims of the '199 patent, which stem from the same original application, but claim "customer identifiers that are either "secure unique identifiers" or "a one-way-code." *See Kraft Foods*, 203 F.3d at 1365-69 (explaining that there is a presumption that two independent claims have different scope when different words or phrases are used in those claims). Thus, the "secure unique identifier" limitation claimed in the '199 patent must include

[6] Indeed, the Summary also describes an embodiment in which there is "an interface for receiving from a secure environment a unique one-way code generated from customer account information." '199 Patent, Summary, 6:11-13. The parties' agreed construction of "one-way code" and the descriptions of that element in the specification establish that a "one-way code" is not a "secure" or "unique" identifier.

something more or something different from the "encrypted customer information" limitation claimed in the '490 patent.

Finally, the Iowa Defendants make the fallacious argument that "secure" is somehow superfluous if the term "secure unique identifier" means "unique customer identifier." This argument is premised on the assertion that a "customer identifier" must be both "unique" and "secure." I demonstrated above, however, that the "customer identifier" does not have to be "unique," in my construction of that disputed term. The portion of the specification to which the Iowa Defendants cite as support for the "secure" limitation in their construction does not support that contention, either. It states, "The method comprises: associating financial data, corresponding to the financial account of the customer, with a customer identifier in a financial account association table maintained *securely* from a user interface." '199 Patent, 4:60-63. The Iowa Defendants' argument fails, because the Iowa Defendants are once again attempting to import a limitation from the description of one of many embodiments, prefaced in this instance with the language, "In another embodiment according to the invention . . . .," *id.* at 4:57, into the construction of the claim term. *See Deere & Co.*, ___ F.3d ___, 2012 WL 6013405 at *2 (citing *Phillips*, 415 F.3d at 1313); *Phillips*, 415 F.3d at 1323 ("[A]lthough the specification often describes very specific embodiments of the invention, [the Federal Circuit Court of Appeals has] repeatedly warned against confining the claims to those embodiments."). It also fails, because the reference to "security" here is not to the "generation" of the "customer identifier," or even to the "customer identifier" itself being "secure," but to "a financial account association table maintained securely from a user interface." '199 Patent, 4:60-63. Thus, because "uniqueness" is not a limitation of the "customer identifier," and only some of the embodiments described in the specification describe "security" as an

element or limitation, nothing makes "secure" superfluous if "secure unique identifier" means "unique customer identifier."

Nor does the Iowa Defendants' "indefiniteness" argument hold water. Although the "definiteness" requirement "is drawn from the court's performance of its duty as the construer of the patent claims," *Amtel Corp.*, 198 F.3d at 1378, that requirement "does not compel absolute clarity" in claim language. *Datamize*, 417 F.3d at 1347. It is only the Iowa Defendants' fallacious "logic games" that suggest that this claim term is "not amenable to construction" or "insolubly ambiguous." *Id.* (internal quotation marks and citations omitted).

d. The tentative construction

Beginning with the "ordinary meaning" of the phrase, in the absence of any showing that the "ordinary meaning" differs from the "ordinary meaning as understood by persons skilled in the art in question," *see Accent Packaging*, ___ F.3d at ___, 2013 WL 407353 at *5, it is clear from claim **1** of the '199 Patent that the "customer identifier" *may be* a "secure unique identifier," and that such a "secure unique identifier" is *not* "a one-way code." This is so, because claim **1** states that "the customer identifier comprises *an identifier selected from a secure unique identifier and a one-way code*," and the parties agree that the italicized phrase must be construed as "a customer identifier that is chosen from one of two available options: a secure unique identifier or a one-way code." It is also clear that a "secure unique identifier" may be "a machine readable code," as claimed in dependent claim **2**, or "a barcode," as claimed in dependent claim **3** (a "customer identifier" that comprises "a one-way code" is claimed in dependent claim **24**), but these dependent claims are necessarily narrower than claim **1** from which they depend, *see, e.g., Alcon Research*, 687 F.3d at 1367; *Intamin*, 483 F.3d at 1335, so that they do not define the entire universe of "secure unique identifiers."

I do not believe that any doubt about the meaning and scope of this claim term actually relates to either the "secure" or the "unique" component. *See 02 Micro Int'l*, 521 F.3d at 1362 (explaining the purpose of construction is to "resol[ve] disputed meanings and technical scope, to clarify and . . . explain what the patentee covered by the claims, for use in the determination of infringement.'" (quoting *U.S. Surgical*, 103 F.3d at 1568)). I think that these words were intended to have their ordinary meaning; indeed, the parties have pointed to nothing in the description or the claims of the patents-in-suit that convincingly demonstrates otherwise. I also believe that leaving these words undefined in any construction of the claim terms will not prevent their meaning from being clear to a jury's full understanding of what the patentee covered with the claims. *Power-One, Inc.*, 599 F.3d at 1348 ("The terms, as construed by the court, must 'ensure that the jury fully understands the court's claim construction rulings and what the patentee covered by the claims.'" (quoting *Sulzer Textil A.G.*, 358 F.3d at 1366)). The point of confusion, in my view, is the meaning of "identifier."

I explained above why I believe that "customer identifier," within the meaning of the first disputed claim term, means "a signal, character, or group of characters that can be used to identify the customer." I find that, because the "secure unique identifier" is a specific kind of "customer identifier," it is appropriate to define it as "a secure, unique signal, character, or group of characters that can be used to identify the customer." I believe that this construction "stays true to the claim language and most naturally aligns with the patent's description of the invention," and consequently, is "the correct construction." *Phillips*, 415 F.3d at 1316 (stating this as the ultimate standard for claim construction). I also believe that this construction will "'ensure that the jury fully understands [my] claim construction rulings and what the patentee covered by the claims.'" *Power-One*, 599 F.3d at 1348 (quoting *Sulzer Textil A.G.*, 358 F.3d at 1366).

My tentative construction is shown below with the claim term and the parties' differing proposals:

No.	Claim Term/Phrase	Serverside's Proposed Construction	Iowa Defendants' Proposed Construction	Court's Construction
2	"secure unique identifier"	No construction required. If construed, then: "unique identifier which is secure"	Indefinite. In the alternative, if not indefinite: "encrypted customer information"	"a secure, unique signal, character, or group of characters that can be used to identify the customer"

4. "Encrypted customer information"

a. Proposed constructions

The last disputed claim term is "encrypted customer information" or "encrypted remote user information." This claim term and the parties' contrasting constructions are displayed below:

No.	Claim Term/Phrase	Relevant Claim(s)	Serverside's Proposed Construction	Iowa Defendants' Proposed Construction
3	"encrypted customer information"/ "encrypted remote user information"	'490: 1, 29-31	No construction required. If construed, then: "customer or remote user information which has been encrypted or encoded"	"a unique code, but not a randomly generated alphanumeric code, generated within a secure environment by performing a transformation on a customer's financial account information"

b. Arguments of the parties

In its opening brief, Serverside asserted that this claim term, like the other two disputed claim terms, actually needs no construction, because it will be easily understood by a lay jury. In the alternative, if some construction is required,

Serverside argued that its proposed construction should be adopted, because it captures the ordinary meaning of the phrase without impermissibly narrowing it. Serverside argued that, in internet security, the ordinary meaning of "encryption" is "the coding of a clear text message by a transmitting unit so as to prevent unauthorized eavesdropping along the transmission line; the receiving unit uses the same algorithm as the transmitting unit to decode the incoming message." Serverside also argued that the patent does not specify which information is encrypted beyond "customer information" or "remote user information," so that the scope of this claim term should not be further limited. Serverside argued that the Iowa Defendants have, once again, improperly imported limitations from specific embodiments in the specification into their construction of this claim term. Serverside also pointed out that the specification only refers to "transformation" in reference to images, not to account information. Serverside also argued that the prosecution history does not support exclusion of a randomly generated alphanumeric code.

In their opening brief, however, the Iowa Defendants asserted that, as to both "customer identifier" in the '199 patent and "encrypted customer information" in the '490 patent, Serverside disclaimed "a randomly generated alphanumeric code." The Iowa Defendants also argued that the specification repeatedly describes the "encrypted customer information" as generated from the customer's financial account information. The Iowa Defendants also argued that the specification shows that the encrypted customer information is generated in a secure environment. Finally, the Iowa Defendants reiterated their argument that the "encrypted customer information," like all other "customer identifiers," must be "unique."

In its rebuttal brief, Serverside argued that the Iowa Defendants' proposed construction of this disputed claim term suffers from the same deficiencies as their proposed constructions of the other disputed claim terms. More specifically, Serverside

argued that the Iowa Defendants have misread the patents when they assert that the only difference between them is that the '199 patent refers to a "customer identifier," while the '490 patent refers to "encrypted customer information," because the claims of *both* patents refer to a "customer identifier," and the specification of *both* patents refers to "encrypted customer information" as a "customer identifier." Thus, Serverside argued, in both patents, "encryption" is just one way to create a "customer identifier." Serverside reiterated that there is no support for the Iowa Defendants' "transformation of customer financial account information" limitation; rather, Serverside argued that the described embodiments expand the scope of the "account information" beyond just "financial account information." Indeed, Serverside pointed out that dependent claim **24** of the '490 patent distinctly claims that the "encrypted customer information" is "created from encrypted financial account information of the remote user," so that this cannot be the maximum scope of "encrypted customer information" in the independent claim.

In their rebuttal brief, the Iowa Defendants reiterated that the fundamental difference between the two patents is that the '199 patent refers to a "customer identifier," while the '490 patent refers to "encrypted customer [or remote user] information." The Iowa Defendants then reiterated their arguments about the kind of information that is "encrypted."

c. Rejection of the parties' constructions

Again, Serverside's construction of "encrypted customer information" as "customer [or remote user] information which has been encrypted or encoded" must be rejected as a "Sheldonian construction," similar to explaining "heart-attack-like event" as "an event that's like a heart attack." *See, supra*, p. 3. Thus, this proposed construction clears up nothing, or, to put it in the language of patent law, it utterly fails to "resol[ve] disputed meanings and technical scope, to clarify and . . . explain what

the patentee covered by the claims, for use in the determination of infringement.'" *02 Micro Int'l*, 521 F.3d at 1362 (quoting *U.S. Surgical*, 103 F.3d at 1568). The only *new* component of Serverside's construction is "or encoded," but this addition does nothing to clarify what "customer information" is involved, even if it clarifies "encrypted."

I have also rejected each component of the Iowa Defendants' proposed construction of this disputed claim term in my rejection of the Iowa Defendants' proposed constructions of other disputed terms. Somewhat more specifically, claim **1** of both patents and the shared specification make clear that "encrypted customer information" *is* a specific kind of "customer identifier." *See Energizer Holdings*, 435 F.3d at 1369 (defining the reviewing tribunal's determination in light of what a person experienced in the field would understand the scope of the claim to be in light of the specification). I have also rejected the contention that the "customer identifier" must be "unique," *see, supra*, p. 41*ff*; that Serverside disclaimed "a randomly generated alphanumeric code," *see, supra*, p. 43*ff*; that there is a requirement that *all* "customer identifiers" must be "generated securely" or from "within a secure environment," *see, supra*, p. 55*ff*; and that there is a requirement that a "customer identifier" must, in all cases, be the result of "performing a transformation on a customer's financial account information," *see, supra*, p. 46*ff*. Even to the extent that an "encrypted customer identifier" is described in the specification as "generated within a secure environment," *see* '199 Patent, Summary, 6:48-49, the description of this single embodiment plainly does not mean that all "encrypted customer information" must be "generated within a secure environment." *Deere & Co.*, ___ F.3d ___, 2012 WL 6013405 at *2.

d. The tentative construction

Beginning with the "ordinary meaning" of the disputed phrase, *see Accent Packaging*, ___ F.3d at ___, 2013 WL 407353 at *5, it is readily apparent that there

are two components to construe: "encrypted" and "customer information." More specifically, the questions are, what form does "encryption" take, and what "customer information" is "encrypted"?

i. Encryption

The Summary and Detailed Description explain that, in some embodiments, the "encrypted customer information" is "generated within a secure environment." *See* '199 Patent, Summary, 6:48-49. Of course, this does not mean that, in *all* embodiments, the "encrypted customer information" must be "generated within a secure environment." *See Phillips*, 415 F.3d at 1323 ("[A]lthough the specification often describes very specific embodiments of the invention, [the Federal Circuit Court of Appeals has] repeatedly warned against confining the claims to those embodiments.").

In addition, however, the Summary states that, in at least one embodiment, the "encrypted customer information" is "decrypted" using "an encryption key." *See* '199 Patent, Summary, 6:55-58. Similarly, the Detailed Description describes one example of creating a secure user identifier by encrypting user information, as follows:

> In an alternative to the embodiment of FIGS. **11** and **12**, which utilize a unique identifier and a hash value, respectively, other methods of creating a secure user identifier may be used. For example, it is also possible for the user information to be encrypted at the card issuer at the beginning of the process, and decrypted at the card bureau using a Private/Public Key or a Private/Private Key encryption technology. This alternative works in a manner similar to the process described in FIG. **12**, but with modified security measures; for example, the key must be held by the card bureau.

'199 Patent, Detailed Description, 17:13-22. These portions of the specification are consistent with Serverside's observation that, in internet security, the ordinary meaning

of "encryption" is "the coding of a clear text message by a transmitting unit so as to prevent unauthorized eavesdropping along the transmission line; the receiving unit uses the same algorithm as the transmitting unit to decode the incoming message." Serverside's Opening Brief at 15 (quoting MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS 717 (6th ed. 2003), which is attached to the Opening Brief as Exhibit D). I note that the same learned dictionary defines "encrypt" by reference to "encipher," and defines "encipher" as "[t]o convert a plain-text message into unintelligible language by means of a cryptosystem." *See* MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS at 717. To avoid any concern that "plain-text" or "clear text" is a term of art, I believe that it is appropriate to substitute "original text."

Thus, I tentatively concluded that an appropriate construction of "encrypted" here is "coded from original text into language that is unintelligible to unauthorized persons."

ii. Customer information

Turning to the second component of this disputed claim term, "customer information," the specification states, *as to one embodiment*, "[t]he encrypted customer information *may be* encrypted by a card issuer encrypting financial account information of the remote customer." '199 Patent, Summary, 7:9-12 (emphasis added). However, it would be improper to adopt this description of a single embodiment as the sole meaning of the phrase. *See Phillips*, 415 F.3d at 1323 ("[A]lthough the specification often describes very specific embodiments of the invention, [the Federal Circuit Court of Appeals has] repeatedly warned against confining the claims to those embodiments."); *see also Deere & Co.*, ___ F.3d at ___, 2012 WL 6013405 at *2 (cautioning that "a claim construction must not import limitations from the specification into the claims"). Moreover, as Serverside points out, dependent claim **24** of the '490

patent specifically claims that "the customer identifier comprises encrypted customer information created from encrypted financial account information of the remote customer." This dependent claim is necessarily narrower than the independent claim from which it depends, claim **1**, *see Alcon Research*, 687 F.3d at 1367; *Intamin*, 483 F.3d at 1335, and that independent claim does not mention "financial account information." Thus, the "encrypted from financial account information of the remote customer" limitation from dependent claim **24** must not be read into independent claim **1**'s "encrypted customer information" under the doctrine of claim differentiation. *See SanDisk*, 695 F.3d at 1361.

The specification includes numerous instances where it has used "customer [or user] information," "customer [or user] account information," or even "encrypted customer information" without further definition or limitation of the "information" involved. *See, e.g.,* '199 Patent, 5:65-6:8; 6:12-13; 6:20-23; 6:47-59. Thus, I tentatively concluded that "customer information" was intended to have a broad meaning, encompassing any information related to the customer, including, but not limited to, financial account information.

iii. The composite construction

Consideration of the components of this disputed claim term "encrypted customer [or remote user] information" led me to the tentative conclusion that the construction that "stays true to the claim language and most naturally aligns with the patent's description of the invention," and consequently, is "the correct construction," *Phillips*, 415 F.3d at 1316 (stating this as the ultimate standard for claim construction), is "customer information coded from original text into language that is unintelligible to unauthorized persons." I also believe that this construction will "'ensure that the jury fully understands [my] claim construction rulings and what the patentee covered by the claims.'" *Power-One*, 599 F.3d at 1348 (quoting *Sulzer Textil A.G.*, 358 F.3d at 1366).

I display my construction below with the disputed claim term and the parties' differing proposals:

No.	Claim Term/Phrase	Serverside's Proposed Construction	Iowa Defendants' Proposed Construction	Court's Tentative Construction
3	"encrypted customer information"/ "encrypted remote user information"	No construction required. If construed, then: "customer or remote user information which has been encrypted or encoded"	"a unique code, but not a randomly generated alphanumeric code, generated within a secure environment by performing a transformation on a customer's financial account information"	"customer information coded from original text into language that is unintelligible to unauthorized persons"

C. Summary Of Tentative Constructions

Prior to the *Markman* hearing, I tentatively construed the "undisputed" and "disputed" claim terms at issue in this patent infringement action as shown in the following chart:

UNDISPUTED CLAIM TERMS			
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Agreed Construction**
1	"financial transaction card"	'199: 1, 2, 9, 14-16, 18, 22, 25, 29 '490: 1, 2, 9, 14-16, 18, 22, 25, 29-31	"a transaction card (e.g., credit card, debit card, ATM card, or similar card), but not a prepaid bearer card"
2	"financial record of the remote customer that personalized the image"	'199: 1 '490: 1	"record of financial information of the customer that personalized the image"
3	"one-way code"	'199: 1	"a hash value created from customer information"

UNDISPUTED CLAIM TERMS			
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Agreed Construction**
4	"image processing means for providing an image, produced based on said instructions for manipulation, for application to the financial transaction card"	'490: 30-31	Means plus function term, with the function being "providing an image, based on instructions for manipulation, for application to the financial transaction card," and the associated structure being "an image processor (see, e.g., back end software 110 and image manipulation emulator 256)"
5	"means for embedding the customer identifier in the personalized image"	'199: 25 '490: 25	Means plus function term, with the function being "embedding the customer identifier in the personalized image" and the associated structure being "a back end server (such as server 1103 or 1203) that embeds the customer identifier in the personalized image, for example by embedding the identifier in a bar code, machine readable code, or metadata"
6	"computer program means for presenting to a remote customer the remote user interface" "computer program means for presenting to a remote customer a user interface" "computer program means for presenting to a remote user an user interface"	'199: 30 '490: 30-31	The three phrases are means plus function claim terms, with the function being "presenting to a remote customer or remote user a user interface" and the associated structure being "a user interface (see, e.g., front end software 105 and Figs. 3-10)"
7	"image instruction means for receiving instructions for manipulation of an image file. . . ." (The language following this phrase differs somewhat in the 3 claims where it appears.)	'199: 30 '490: 30-31	The phrase is a means plus function claim term, with the function being "receiving instructions for manipulation of an image file" and the associated structure being "an image compilation server coupled to a communications link (see, e.g., image compilation server 108)"
8	"an identifier selected from a secure unique identifier and a one-way code"	'199: 1	"a customer identifier that is chosen from one of two available options: a secure unique identifier or a one-way code"

UNDISPUTED CLAIM TERMS			
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Agreed Construction**
9	"instructions defining said plurality of manipulations applied to the graphical representation"	'199: 29 '490: 29	"instructions for implementing all of the manipulations that a remote user applies to a graphical representation on a remote terminal"

DISPUTED CLAIM TERMS					
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Serverside's Proposed Construction**	**Iowa Defendants' Proposed Construction**	**Court's Tentative Construction**
1	"customer identifier that corresponds to the remote customer that personalized said image" "customer identifier corresponding to the remote customer"/ "customer identifier that corresponds to the remote customer" "unique identifier corresponding to the remote user"	'199: 1-4, 6-8, 10-13, 15, 17-18, 20-21, 24-28 '490: 1-4, 6-8, 10-13, 15, 17-18, 20-21, 24-28, 30-31	No construction required. If construed, then: "information used to identify the remote customer or user."	A unique code, but not a randomly generated alphanumeric code, generated by performing a transformation on a customer's financial account information, such as the customer's name or account number, but not generated using information provided by the customer.	"a signal, character, or group of characters that matches with the customer that personalized the image"
2	"secure unique identifier"	'199: 1	No construction required. If construed, then: "unique identifier which is secure"	Indefinite. In the alternative, if not indefinite: "encrypted customer information."	"a secure, unique signal, character, or group of characters that can be used to identify the customer"

DISPUTED CLAIM TERMS					
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Serverside's Proposed Construction**	**Iowa Defendants' Proposed Construction**	**Court's Tentative Construction**
3	"encrypted customer information"/ "encrypted remote user information"	'490: 1, 29-31	No construction required. If construed, then: "customer or remote user information which has been encrypted or encoded"	"a unique code, but not a randomly generated alphanumeric code, generated within a secure environment by performing a transformation on a customer's financial account information"	"customer information coded from original text into language that is unintelligible to unauthorized persons"

D. The Markman *Hearing*

1. Additional evidence and the parties' positions

At the *Markman* hearing on February 20, 2013, the Iowa Defendants offered, without objection from Serverside, and I admitted, four additional exhibits: Defendants' Exhibit 8, which is a copy of the Tuchler prior art patent (U.S. Patent No. 2004/0099730 A1); Exhibit 9, which is a copy of Severside's Joint Claim Construction Brief in the Delaware action; Exhibit 10, which is a copy of the June 3, 2008, Office Action from the PTO on Application No. 12/132,516; and Exhibit 11, which is a copy of the November 24, 2010, Office Action from the PTO on Application No. 12/954,277. Serverside did not offer any additional exhibits or other evidence. At my request, the parties provided me with copies of the demonstrative slides that they had used in their arguments.

Serverside's position at the *Markman* hearing was, in essence, that my tentative constructions were correct—indeed, Serverside conceded that they may even be improvements upon Serverside's proposed constructions—and that everything in the tentative draft opinion was correct. The Iowa Defendants' position was, in essence,

that my tentative constructions were correct, so far as they went. To make my tentative constructions of the first and third disputed claim terms more accurate, however, the Iowa Defendants urged me to insert the "unique" and "but not a randomly generated alphanumeric code" limitations that I had previously rejected. The Iowa Defendants supported their reassertion of these tentatively rejected limitations primarily with the new exhibits that they offered at the *Markman* hearing and citations to additional portions of previously-offered exhibits.

As to the placement of these limitations, the Iowa Defendants suggested at the *Markman* hearing that "unique" become the first limitation of each of these claim terms and that "but not a randomly generated alphanumeric code" become the last limitation. Thus, as to the first disputed claim term, "customer identifier that corresponds to the remote customer that personalized said image," the Iowa Defendants argued that my tentative construction should be amended to read "a unique signal, character, or group of characters that matches with the customer that personalized the image, but not a randomly generated alphanumeric code." As to the third disputed claim term, "encrypted customer information," the Iowa Defendants argued that my tentative construction should be amended to read "unique customer information coded from original text into language that is unintelligible to unauthorized persons, but not a randomly generated alphanumeric code."

Setting aside, for the moment, the question of whether or not I should insert these tentatively rejected limitations, I do not believe that the placement of these limitations suggested by the Iowa Defendants would be consistent with the Iowa Defendants' original proposed constructions or with basic grammar. Rather, I believe that, to be consistent with the Iowa Defendants' original proposed constructions and with basic grammar, these limitations must each be placed as close as possible to the terms that the Iowa Defendants argued should be further limited.

Thus, as to the first disputed claim term, basic grammar would suggest that both "unique" and "but not a randomly generated alphanumeric code" should be placed as close as possible to "a signal, character, or group of characters," *i.e.*, the "customer identifier," because "customer identifier" is the term that the Iowa Defendants argued must be further limited. While I do not quibble with the Iowa Defendants' proposed placement of the "unique" limitation, the Iowa Defendants' proposed placement of "but not a randomly generated alphanumeric code" after "the customer that personalized the image," suggests that the "signal, character, or group of characters" must match with "the customer that personalized the image," but not match with "a randomly generated alphanumeric code," which is nonsensical.

Similarly, as to the third disputed claim term, the proposed limitations must be placed as close as possible to the resulting "language that is unintelligible to unauthorized persons," *i.e.*, the "encrypted customer information," because "encrypted customer information" is the term that the Iowa Defendants contended must be further limited. More specifically, what must be "unique" is the resulting "language," not the original "customer information" that is coded from original text into resulting "language," and what must not be "a randomly generated alphanumeric code" is the resulting "language that is unintelligible to unauthorized persons." In contrast, the Iowa Defendants' proposed placement of the "unique" limitation makes the original "customer information," not the resulting "language," what must be "unique." Their proposed placement of the second limitation creates an ambiguity, because it could suggest that the resulting "language" must be "unintelligible" to "unauthorized persons," but not "unintelligible" to "a randomly generated alphanumeric code," which is nonsensical. This ambiguity can be remedied, however, by contracting "language that is unintelligible to unauthorized persons" into "language unintelligible to

unauthorized persons," and by inserting "into" into the requested limitation, so that it reads "but not into a randomly generated alphanumeric code."

Thus, I have displayed below, side-by-side, Serverside's original proposed constructions, the Iowa Defendants' original proposed constructions, my tentative constructions, and the Iowa Defendants' proposed revisions to my tentative constructions, with their proposed revisions underlined.

DISPUTED CLAIM TERMS						
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Serverside's Proposed Construction**	**Iowa Defendants' Proposed Construction**	**Court's Tentative Construction**	**Iowa Defendants' Proposed Revised Construction**
1	"customer identifier that corresponds to the remote customer that personalized said image" "customer identifier corresponding to the remote customer"/ "customer identifier that corresponds to the remote customer" "unique identifier corresponding to the remote user"	'199: 1-4, 6-8, 10-13, 15, 17-18, 20-21, 24-28 '490: 1-4, 6-8, 10-13, 15, 17-18, 20-21, 24-28, 30-31	No construction required. If construed, then: "information used to identify the remote customer or user"	"a unique code, but not a randomly generated alphanumeric code, generated by performing a transformation on a customer's financial account information, such as the customer's name or account number, but not generated using information provided by the customer"	"a signal, character, or group of characters that matches with the customer that personalized the image"	"a unique signal, character, or group of characters, but not a randomly generated alphanumeric code, that matches with the customer that personalized the image"
3	"encrypted customer information"/ "encrypted remote user information"	'490: 1, 29-31	No construction required. If construed, then: "customer or remote user information which has been encrypted or encoded"	"a unique code, but not a randomly generated alphanumeric code, generated within a secure environment by performing a transformation on a customer's financial account information"	"customer information coded from original text into language that is unintelligible to unauthorized persons"	"customer information coded from original text into unique language unintelligible to unauthorized persons, but not into a randomly generated alphanumeric code"

Because the Iowa Defendants argue that the same rationale supports inserting the reurged limitations into the two still-disputed claim terms, I will consider these reurged limitations in turn, rather than reconsidering my tentative constructions of the two still-disputed claim terms in turn.

2. Insertion of the "unique" limitation

a. Arguments at the hearing

At the *Markman* hearing, the Iowa Defendants argued that "unique" should be inserted as a limitation in the first and third disputed claim terms, because of repeated references to a "unique" "customer identifier" in the figures and specification of the patents-in-suit. For example, they pointed to Figure **1**, in which **103** is a "unique customer identifier"; they pointed to a reference to the identifier in the description of Figure **2** as "unique," citing the '199 Patent, 12:25, although they acknowledged that Figure **2** itself does not refer to a "unique" customer identifier, at **233** or anywhere else; and they argued that the description of Figure **11** at column 15 repeatedly states that the identifier is "unique."

Moreover, the Iowa Defendants contended that Figure **12** and the description of it, pertaining to an embodiment that involves a "one-way code" instead of some other "customer identifier," does not disprove the universal requirement of a "unique" limitation for all "customer identifiers." This is so, they contended, because a "hash value" is, by definition, a "unique" identifier, where it is generated by using algorithms with only an infinitesimal chance that the same "hash value" would be generated more than once. They also argued that, in the description of Figure **12**, at column 16, there are "repeated" references to the "one-way code" or "hash value" being "unique." They also argued that, in the description of Figure **12**, there is also a reference to the "computational infeasibility" of another input string generating the same "hash value."

They argued that "computational infeasibility" is equivalent to a requirement that the "hash value" be "unique."

The Iowa Defendants also argued that, even though the embodiment described in Figure **12** states, at 16:6-7, that it would "avoid the need to create for each customer a unique identifier," to discover what actually distinguishes this embodiment from other embodiments, one must focus on the word "create." The use of this word, they argued, indicates only that the "hash value" is not created by the customer, but is instead created computationally, within the system. Thus, the Iowa Defendants argued that what distinguishes this embodiment from other embodiments is not whether or not the "hash value" or "one-way code" is "unique," but who or what generates it, so that all "customer identifiers" must be "unique."[7]

In response, Severside argued that I correctly identified in my tentative ruling two fundamental reasons why there is no "unique" limitation on a "customer identifier" or "encrypted customer information": First, each place that the Iowa Defendants identified a reference to the term "unique" is, ultimately, only an example of an embodiment, it is not a claim limitation, and, second, claim differentiation would preclude injecting such a limitation.

More specifically, Serverside argued that each of the references to the "customer identifier" being "unique" that the Iowa Defendants identified in the specification, either before or at the *Markman* hearing, is prefaced with language making clear that it describes a specific embodiment. Serverside also argued that there are descriptions of embodiments that do not require a "unique" identifier, such as the one shown in Figure

[7] Although I asked the Iowa Defendants' counsel what would be the consequences in this litigation of inserting the "unique" limitation, counsel stated that he was unable to answer the question without consulting his client.

12, which, as I pointed out in my tentative construction, states that it would "avoid the need to create . . . a unique identifier."

As to claim differentiation, Serverside argued that, as I noted in my tentative construction, there is an express requirement in claim **31** of the '490 patent that the customer identifier be "unique," but that it comprises "encrypted remote user information." Thus, Serverside argued that the differences between claim **1** of the '199 patent and claim **31** of the '490 patent give rise to a presumption that the two claims have different scope.

b. Analysis

I find that most of the Iowa Defendants' arguments reurging the "unique" limitation are unpersuasive for the same two reasons that I rejected the arguments for this limitation in their pre-hearing briefs. First, as Serverside points out, the beginning of every passage of the specification referring to a "unique" identifier that the Iowa Defendants have identified, either before or at the *Markman* hearing, states that it is limited to the description of a single embodiment. This is certainly true of the description of Figure **12**, on which the Iowa Defendants' argument at the *Markman* hearing specifically relied. *See* '199 Patent, 16:5-8 ("By contrast with the process of FIG. **11**, *the embodiment of FIG. **12*** allows a card issuer to avoid the need to create for each customer a unique identifier that must be passed through the card issuer's system." (emphasis added)). Thus, the Iowa Defendants simply repeated at the *Markman* hearing the classic error of importing limitations from the specification into the claims. *See Deere & Co.*, ___ F.3d ___, 2012 WL 6013405 at *2 (citing *Phillips*, 415 F.3d at 1313); *Phillips*, 415 F.3d at 1323 ("[A]lthough the specification often describes very specific embodiments of the invention, [the Federal Circuit Court of Appeals has] repeatedly warned against confining the claims to those embodiments.");

accord Accent Packaging, ___ F.3d ___, 2013 WL 407363 at *6 (citing *Phillips*, 415 F.3d at 1323).

Second, the insertion of a "unique" limitation would violate the doctrine of claim differentiation. As I explained in my tentative ruling, the only reference to the "customer identifier" being "unique" in the *claims* of the '199 patent is in claim **1**, in which the last limitation states, "wherein the customer identifier comprises an identifier selected from a secure *unique* identifier and a one-way code." (emphasis added). This claim language, like the embodiments described in the specification, clearly *contrasts* a "unique" identifier with a "one-way code" identifier, making an assertion that "uniqueness" is required for *all* customer identifiers untenable. Claim **31** of the '490 patent identifies the "customer identifier" as "unique," but that embodiment also requires that the "customer identifier" "comprises encrypted remote user information." Thus, the differences between claim **31** of the '490 patent and claim **1** of the related '199 patent give rise to a presumption that the two claims have different scope, because they use different words or phrases. *See Kraft Foods*, 203 F.3d at 1365-69. The Iowa Defendants' arguments at the *Markman* hearing did nothing to rebut that presumption.

The truly *new* parts of the Iowa Defendants' arguments at the *Markman* hearing reurging the "unique" limitation do not give me much greater pause. Those arguments are (1) that a "one-way code" or "hash value," which is purportedly described in the claims and specification as an alternative to a "unique" identifier is, in fact, "unique," and (2) that the distinction between embodiments using a "one-way code" and those using some other "customer identifier" is not whether or not the identifier is "unique," but who or what generates or "creates" it, because, they asserted, the other "customer identifiers" are created by *the customer*, but the "one-way code" is created *computationally, within the system*.

Both of these arguments focus on the following description of Figure **12** in column 16:

> *By contrast with the process of FIG. **11**, the embodiment of FIG. **12** allows a card issuer to avoid the need to create for each customer a unique identifier that must be passed through the card issuer's system.* Instead, the card issuer creates a "hash value," such as a message digest, or other one-way code, based on some account details for each individual, so that the card issuer can pass customers' account information to the back end server in a way that is completely safe. Referring to FIG. **12**, the process is similar to that of FIG. **11**, with a card issuer **1204**, a back end server **1203**, and bureau **1205** performing analogous steps (**1201** and following) to those of FIG. **11** (**1101** and following). However, a principal difference is found in steps **1202**, **1207**, **1210**, **1213**, **1226**, and **1227** of FIG. **12**, in which a "hash value" (or other one-way code) is passed between the card issuer **1204** and the back end server **1203**, *instead of requiring the card issuer to create a unique identifier for each customer, as in FIG. **11***. First, in step **1202**, a hash of a *unique* part of the customer record (such as the customer's name) is created. A one-way hash, such as the MD5 hash, is a process that takes arbitrary-sized input data (such as a customer's name and account number), and generates a fixed-size output, called a hash (or hash value). A hash has the following properties: (i) *it should be computationally infeasible to find another input string that will generate the same hash value*; and (ii) the hash does not reveal anything about the input that was used to generate it. This means that the hash function used in the embodiment of FIG. **12** allows the card issuer **1204** to pass at least some of a customer's account information to the back end server **1203** in a way that is completely secure. As seen in steps **1202**, **1207**, **1210**, **1213**, **1226**, and **1227**, a hash value may be passed back and forth between the card issuer **1204** and the back end server **1203**, *without the need for the card issuer **1204** to create a unique identifier and pass it through its system*.

'199 Patent, 16:5-39 (emphasis added).

Putting aside that this description is prefaced with language limiting it to a single embodiment, so that it is not properly the stuff of limitations on the scope of the patents-in-suit, *see Deere & Co.*, ___ F.3d ___, 2012 WL 6013405 at *2 (citing *Phillips*, 415 F.3d at 1313); *Accent Packaging*, ___ F.3d ___, 2013 WL 407363 at *6; *Phillips*, 415 F.3d at 1323, it is clear that the "one-way code" or "hash value" is never described as "unique" in column 16, contrary to the Iowa Defendants' assertion that there are "repeated" references to the "one-way code" or "hash value" being "unique" in this portion of the specification. Rather, the "hash" is created from "a unique part of the customer record (such as the customer's name)." '199 Patent, 16:22-23.

Furthermore, creation of a "hash" or "hash value" such that it "should be computationally infeasible to find another input string that will generate the same hash value," *see id.* at 16:27-29, does not mean that the hash value is necessarily "unique," contrary to the Iowa Defendants' contention. Rather, as the Iowa Defendants concede, there is a possibility, however infinitesimally small, that the same "hash value" will be generated from another input string. Thus, this requirement does not mean that it is "impossible" to generate the "same hash" value from a different input string. If I construed "computationally infeasible to find another input string that will generate the same hash value" in the *specification* to mean that the "hash value" is "unique," I would grossly modify the meaning of "hash value" or "one-way code," much as I concluded, in a prior patent case, that construing *claim language* claiming a process to manufacture washing machine tubs "eliminating" or "lacking" "knit lines" to mean only "eliminating" or "lacking" "*visible* knit lines" would grossly modify the meaning of the pertinent claim term. *Cf. Maytag Corp. v. Electrolux Home Prods., Inc.*, 411 F. Supp. 2d 1008, 1055 (N.D. Iowa 2006) (claim construction ruling stating, "While it is possible, even probable, that the patentee's focus [in a patent concerning the

manufacture of washing machine tubs] was on 'visible' knit lines, because it is or may be impossible, with present technology, to eliminate 'invisible' knit lines, that is not what the patentee actually claimed. If the court were to construe 'knit lines' everywhere the term appears in the patent to mean only 'visible knit lines,' the court would be grossly modifying what was claimed."); *Maytag Corp. v. Electrolux Home Prods., Inc.,* 448 F. Supp. 2d 1034, 1081-82 (N.D. Iowa 2006) (concluding that the patentee had failed to meet its burden on summary judgment to generate evidence such that a reasonable factfinder could infer that the patent "enabled" an invention in which "knit lines" were entirely eliminated from the washing machine tub), *aff'd*, 224 Fed.Appx. 972 (Fed. Cir. 2007) (*per curiam*). Here, what the patentee actually described was a "hash value" (*i.e.*, a "one-way code") such that it is "computationally infeasible" for a different input string to generate the same "hash value," not that the "hash value" would be "unique."

The Iowa Defendants also argued at the *Markman* hearing that what distinguishes the embodiment in Figure **12** from other embodiments is not whether or not the "hash value" (*i.e.*, the "one-way code") is "unique," but who or what generates or "creates" it, so that all "customer identifiers" must be "unique." The description of this embodiment actually indicates, *twice*, that it is the "card issuer," not the "customer," who is relieved of the necessity of creating the "unique identifier." *See* '199 Patent, 16:5-8 ("By contrast with the process of FIG. **11**, the embodiment of FIG. **12** allows *a card issuer* to avoid the need to create for each customer a unique identifier that must be passed through the card issuer's system." (emphasis added)); *id.* at 16:20-21 (explaining that a "'hash value' (or other one-way code) is passed between the card issuer **1204** and the back end server **1203**, instead of requiring *the card issuer* to create a unique identifier for each customer, as in FIG. **11**" (emphasis added)). Thus, the Iowa Defendants' premise for this argument is faulty.

Furthermore, I have not found a description of any embodiment in which the "unique identifier" is created by the customer, rather than by the "card issuer," but I have found other embodiments that are silent as to who or what part of the process creates the "unique identifier," suggesting that a "unique identifier," like a "one-way code," might be created computationally, within the system. *Compare id.* at 10:62-66 (explaining that, in the embodiment in Figure **1**, "the card issuer issues the customer with a unique identifying number"); *id.* at 15:32-35 (explaining that, in the embodiment in Figure **11**, "the card issuer **1104** creates a unique identifier"); *with id.* at 12:19-26 (explaining that, in the embodiment in Figure **2**, the customer "arriv[es] with a unique identifier which relates to the customer's account," but not explaining who or what part of the process assigned the "unique" identifier with which the customer "arrives").

Thus, the specification of the patents does not support the Iowa Defendants' reassertion of a "unique" limitation on the "customer identifier" in the first disputed claim term. *See Deere & Co.*, ___ F.3d at ___, 2012 WL 6013405 at *2 (stating that "'[t]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which [it] appears, but in the context of the entire patent, including the specification,'" (quoting *Phillips*, 415 F.3d at 1313), and also stating that "claim terms are understood in light of the specification").

"'The person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which [it] appears, but in the context of the entire patent, including the specification.'" *Id.* Here, reading the "customer identifier" claim term in the context of other claims also does not support the Iowa Defendants' reassertion of a distinction between "one-way code" identifiers and other "customer identifiers" on the basis of who or what generated each kind of code. Dependent claims **17** and **18** of the '199 patent (and the identical claims of the '490 patent) expressly claim the following:

> **17**. Computerized financial transaction card production equipment as in claim **1**, *wherein the image processor computer comprises a module for generating the customer identifier*.
>
> **18**. Computerized financial transaction card production equipment as in claim **1**, configured to connect to *a computer system of a card issuer comprising a module to generate the customer identifier*.

'199 Patent, Claims **17-18** (emphasis added). Although these claims each claim that different parts of the "computerized financial transaction card production equipment in claim **1**" generate the "customer identifier"—that is, a module of the "image processor computer" in claim **17**, but a module of the "computer system of the card issuer" in claim **18**—neither ties the generation limitation to a particular kind of "customer identifier," that is, either a "secure unique identifier" or a "one-way code," the two options for a "customer identifier" expressly claimed in claim **1** of the '199 patent. These dependent claims are necessarily narrower than independent claim **1**, *see, e.g., Alcon Research*, 687 F.3d at 1367; *Intamin*, 483 F.3d at 1335, and claim **1** is silent as to who or what generates the "customer identifier." *See* '199 Patent, claim **1**. Thus, the Iowa Defendants have no support in the claims of the '199 patent for their premise that what distinguishes embodiments involving a "customer identifier" that is a "secure unique identifier" from embodiments involving a "customer identifier" that is a "one-way code" (*i.e.*, a "hash value") is not whether or not the "customer identifier" is "unique," but who or what generates or creates the specific kind of "customer identifier."

In short, the Iowa Defendants have pointed to nothing in the claims or the specification of the patents-in-suit that proves, or even generates an inference, that all "customer identifiers," including "one-way codes," must be "unique." Rather, the constructions of the first and third disputed claim terms that "stay[] true to the claim

language and most naturally align[ ] with the patent's description of the invention," and consequently, are "the correct construction[s]" of those claim terms, *Phillips*, 415 F.3d at 1316 (stating this as the ultimate standard for claim construction), do *not* include a "unique" limitation for the "customer identifier."

I will not insert the proposed "unique" limitation into my final constructions of the first and third disputed claim terms.

3. Insertion of the "not a randomly generated alphanumeric code" limitation

At the *Markman* hearing, the Iowa Defendants also reurged insertion of a "not a randomly generated alphanumeric code" limitation into the constructions of the first and third disputed claim terms. Serverside argues that I correctly rejected such a limitation on either disputed claim term in my tentative ruling.

The Tuchler prior art patent and the prosecution history for the patents-in-suit involving that prior art figure prominently in the parties' arguments concerning whether or not I should insert a "not a randomly generated alphanumeric code" limitation into the constructions of the first and third disputed claim terms. I believe that the parties' arguments about this proposed limitation will make more sense, if I first summarize the portions of the prosecution history on which their arguments are based.

a. Additional background

i. The Tuchler prior art

The Tuchler prior art is U.S. Patent No. 2004/0099730 A1, which issued on May 27, 2004. A copy of that patent was admitted into evidence at the *Markman* hearing as the Iowa Defendants' Exhibit 8.

The Abstract of the Tuchler patent explains the claimed invention, briefly, as follows:

> A method of making a personalized financial transaction card having a customer-specified image on the card. The method includes providing a programming station for access by the customer. The programming station includes a data entry tool. The method also includes providing a card account management system connected to the programming station. The card account management system includes a database of account data relating to the customer. The method further includes entering data representing the customer-specific image into the programming station using the data entry tool, transmitting the data from the programming station to the card account management system, and generating a personalized financial transaction card related to the account data and bearing the customer-specified image on the personalized financial transaction card.

Tuchler Patent, Abstract. In short, Tuchler disclosed "a method of personalizing gift cards, which includes allowing a customer to upload a customer-specified image onto the internet from a first location, download the customer-specified image (e.g., a digital photograph file) from the internet to a second location (e.g., a customer service department) and apply the image to a gift card." Tuchler Patent, Summary Of The Invention, ¶ [0006].

I find the first three figures from the Tuchler patent to be helpful in understanding the parts of the specification of this patent that figure in the parts of the prosecution history on which the present parties' arguments are based. According to the Brief Description Of The Drawings, Figures **1** and **2** show the "front" and "back" views, respectively, of a gift card according to the invention, and Figure **3** "is a diagram detailing one embodiment of a system according to the present invention." These figures are shown below.

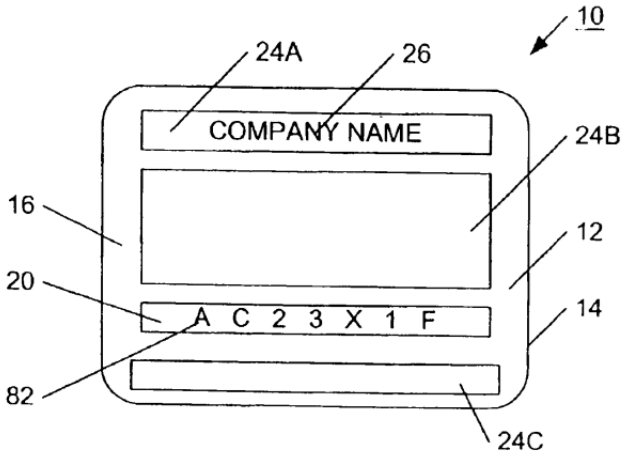


FIGURE 1

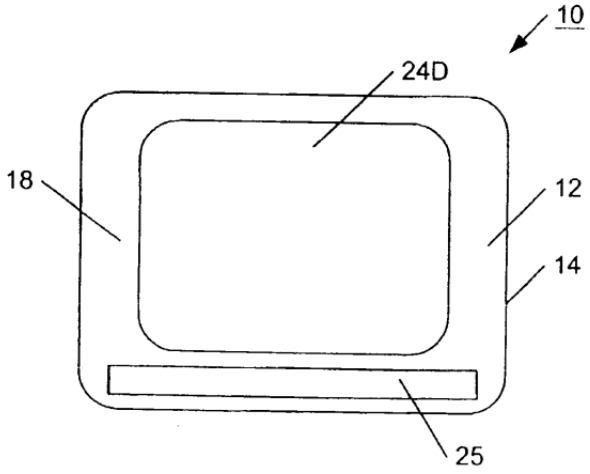
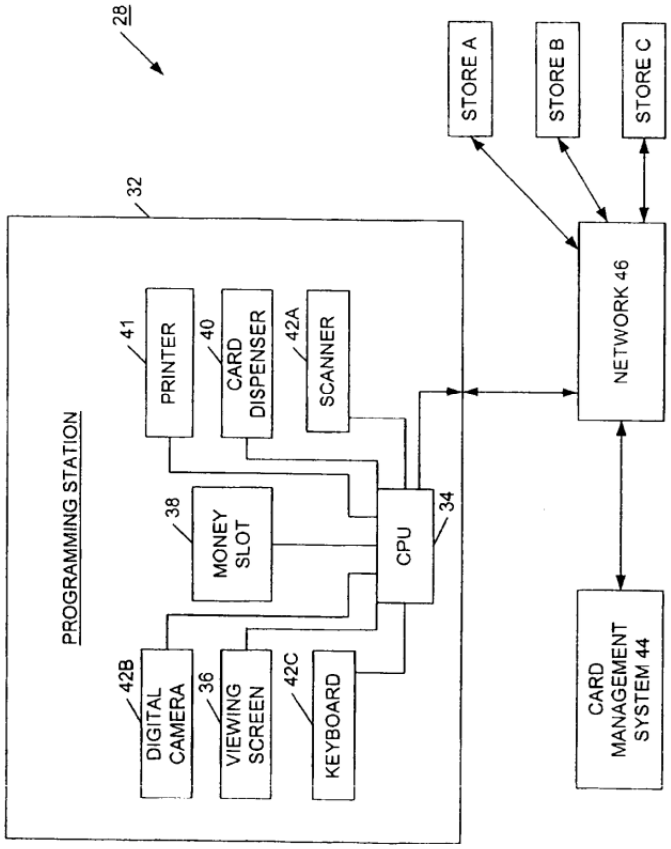


FIGURE 2

FIGURE 3


28
32
PROGRAMMING STATION
41
PRINTER
40
CARD DISPENSER
42A
SCANNER
38
MONEY SLOT
34
CPU
42B
DIGITAL CAMERA
36
VIEWING SCREEN
42C
KEYBOARD
STORE A
STORE B
STORE C
NETWORK 46
CARD MANAGEMENT SYSTEM 44

The following paragraphs of the Detailed Description of the Tuchler patent explain the figures included above and are central to the parts of the prosecution history of the patents-in-suit of interest here:

> **[0021]** FIGS. **1** and **2** illustrate a personalized financial transaction card or gift card **10** according to the present invention. The gift card **10** includes a plastic card body **12** having an outer perimeter **14**, a front side **16**, and a back side **18**. The card body **12** is sized to be similar to credit cards and debit cards and can be stored in a wallet or a purse. The front side **16** includes an *identification number* field **20** and three data fields **24A**, **24B**, **24C**. The back side **18** includes a fourth data field **24D**. One having ordinary skill in the art will appreciate that the front and back sides **16**, **18** could alternatively include one, two, three, five, or more data fields and that the location of the data fields can be changed to a significant degree, as explained in greater detail below.
>
> **[0022]** In the illustrated embodiment, the first data field **24A** includes the name and perhaps trademark **26** of a card issuer (e.g, a store name, the name of a shopping mall, and the like). *The second data field **24B** and the third data field **24C** are user specified data fields and may include images and/or text as specified by a customer*. The fourth data field **24D** includes directions and instructions, explaining how and where the card **10** can be used. A magnetic strip **25** extends across the bottom of the back side **18** and stores identification and account information. *Further identification and account information can be printed on the card **10**,* stored in an optical data carrier (e.g., a bar code), or can be incorporated in a memory chip, which can be imbedded in the card body **12**.
>
> **[0023]** FIG. **3** illustrates a card personalization system **28**, including a programming station **32** (e.g., a personal computer, a dedicated network terminal, a point of sale terminal, a handheld computer, a cellular phone, a personal data assistant, and the like). In the illustrated embodiment,

the programming station **32** is located in a retail establishment. However as described in greater detail below, the programming station **32** can be located in a number of locations, including but not limited to stores, kiosks, shopping malls, and other public places.

[0024] In the embodiment illustrated in FIG. **3**, the programming station **32** includes a central processing unit ("CPU") **34**, which manages the operations and communications of the programming station **32**. As is commonly known in the art, the CPU **34** may be a single integrated circuit designed specifically as an ASIC to effect all necessary processing and communications functions. Alternatively, the CPU **34** may include a collection of discrete electronic components for effecting the processing and communications functions separately. The programming station **32** also includes a viewing screen **36**, a money slot **38** or credit/debit card swipe (for entering a monetary value into the programming station **32**), a card dispenser **40**, and a printer **41** all connected to the CPU. The programming station **32** also includes three data entry tools **42** for entering or uploading data, in the form of text messages and/or graphic images, into the programming station **32**. More specifically, the programming station **32** includes a scanner **42A**, a digital camera **42B**, and a keyboard **42C**. In other embodiments (not shown), the programming station **32** can also or alternately include other data entry tools **42** (e.g., a CD-ROM drive, a disk drive, a touch-screen, a mouse, and the like) for uploading or entering data into the programming station **32**, or the programming station **32** may include only one or any number of the aforementioned data entry tools **42** in any combinations.

[0025] The programming station **32** communicates through the CPU with a card management system **44** (e.g., a network server a computer database, a personal computer, a super computer, and the like) over a network **46** in accordance with a standardized communication protocol and/or a standardized object protocol, depending on the type of network and the type of data being transmitted. *The card*

> *management system **44** stores account information and customer profile information (e.g., addresses, billing information, phone numbers, spending history, credit history, and the like)*. Additionally, the card management system **44** stores card information, such as, for example, *card identification numbers*, the number of cards issued, the next available card identification number, card activation codes, and the like.

Tuchler Patent, ¶¶ **[0021]**-**[0025]** (emphasis added).

The most critical portions of the Detailed Description of the Tuchler patent in the portions of the prosecution history cited by the parties are the following:

> **[0035]** *After the customer has entered text messages and/or graphic images (referred to hereafter collectively as "personalized data")* in the data entry fields, the customer presses the "enter" key, transmitting the completed template to the card management system **44**. . . .
>
> * * *
>
> **[0039]** Once the customer has selected a payment option and the card management system **44** has accepted payment, *the card management system **44** assigns a random alphanumeric identifier to the personalized data and creates an account* in act **72**. *The account is identified by the alphanumeric identifier and is credited with the dollar value selected by the customer* in act **54** or act **68**. The card management system **44** stores the account information, including the *identifier* and the dollar value credited to the account, in a database. As shown in FIG. **3**, in some applications, the stores A, B, C can access the account information via the network **46**. Therefore, when the card **10** is used to make a purchase, the purchase amount can be debited directly from the account. In one embodiment, the programming station **32** is at the point of purchase and is integrated within the programming station **32**. In this embodiment, the programming station **32** is a gift card dispenser and the only data transferred between the card management system **44** and the programming

> station **32** is the dollar value input by the customer and assigned to the gift card **10**.
>
> **[0040]** In act **76**, the card management system **44** transmits the personalized data and the *identifier* to the printer **41**, which prints, embosses, or laminates the specified images onto the gift card **10**. . . .

Tuchler Patent, ¶¶ **[0035]**, **[0039]**-**[0040]** (emphasis added).

ii. The prosecution history

On June 28, 2010, the Examiner filed an Office Action, Iowa Defendants' Exhibit 10—which was submitted only at the *Markman* hearing, not with pre-hearing briefing—rejecting all claims of the pending application for the patents-in-suit. That Office Action, *inter alia*, rejected application claim 1, in part, because "[p]aragraphs 0023-0025 [of Tuchler] disclose a module to receive *a customer identifier that corresponds to the remote customer that personalized the image* [and] further discuss a controller operable, based on *the customer identifier*, to cause printing of the personalized customer image onto the card material and to cause application of relevant financial information from the financial record onto the card material." Exhibit 10 at 3 (emphasis added).

That Office Action also stated,

> With respect to claims 15 and 16 [of Severside's application], Tuchler discloses in paragraph 0039 that the image processor computer comprises a module for generating *the customer identifier* and that the production equipment is configured to connect to a computer system of a card issuer comprising a module to generate *the customer identifier*.
>
> * * *
>
> With respect to claims 20 and 21 [of Serverside's application], Tuchler discloses in paragraphs 0022-0025 that the *customer identifier* is provided with the personalized

> image, and equipment comprises a reader configured to interpret the *customer identifier* and cause the controller to fetch the relevant financial record and further that the *customer identifier* is provided with a financial record, and equipment comprises a reader configured to interpret the *customer identifier* and cause the controller to fetch the relevant personalized image.
>
> * * *
>
> With respect to claims 24-26 [of Serverside's application], Tuchler discloses in paragraph 0039, that *the customer identifier comprises [a] secure unique identifier*.

Exhibit 10 at 5-6 (emphasis added).

Serverside's response, Iowa Defendants' Exhibit 5—which was attached to pre-hearing briefing—was to amend application claims and to assert two main arguments relevant to the limitation currently at issue: (1) that Tuchler does not disclose a "customer identifier," but a "data identifier," and (2) that the "random" identifier in Tuchler could not be a "customer identifier" or "encrypted customer information."[8] More specifically, Serverside argued, as follows:

> Amended claim 1 now includes the feature previously identified as an option in dependent claim 24—that *the customer identifier comprises encrypted customer information*.
>
> No objection to this option in claim 24 was made in the report. Accordingly, it appears that the Examiner regards this feature as patentable.

[8] Serverside also argued in this response to the Office Action that Tuchler is limited to "bearer cards." The Delaware court concluded that this argument was a disclaimer of "bearer cards," and concluded that "financial transaction card" within the meaning of the patents-in-suit should be construed as "a transaction card (e.g., credit card, debit card, ATM card, or similar card), but not a prepaid bearer card." The parties do not dispute that construction of "financial transaction card" in this action.

> Further, it is submitted that the Examiner's arguments regarding claims 15 and 16 *identify the random alphanumeric identifier referred to in paragraph [0039] of Tuchler as corresponding to the customer identifier of the present invention*. *Even if the randomly selected alphanumeric identifier was to be regarded as a customer identifier, however, it is randomly selected*. *Random selection cannot possibly comprise encrypted customer information*.
>
> There is nothing anywhere in Tuchler to teach or suggest in any way that the *identifier* of Tuchler, which is stated to be *a random alphanumeric identifier*, should instead be *a customer identifier comprising encrypted customer information*.
>
> Accordingly, it is submitted that amended claim 1 is not anticipated by Tuchler.

Exhibit 5 at 9 (underlining in the original; italics added).

Serverside's assertion that Tuchler disclosed only a method related to "bearer cards" or "gift cards," rather than all "financial transaction cards," also figured in Serverside's argument that Tuchler discloses only a "data identifier," not a "customer identifier." On this issue, Serverside argued, *inter alia*, as follows:

> *It is respectfully submitted that the skilled person understands that a gift card is a bearer card which is useable by anyone and is not related to a financial account of a customer or related to a customer identify [sic] or identifier*. This understanding is supported by paragraph [0004] of Tuchler, which explains the use of gift cards as "the purchaser can give the card as a gift to a cardholder. The cardholder can then use the card in the issuer's stores instead of cash," and by paragraph [0039] of Tuchler, which states that "the card management system 44 assigns *a random alphanumeric identifier to the personalized data and creates an account* in act 72. *The account is identified by the alphanumeric identifier* and is credited with the dollar

> value selected by the customer in act 54 or act 68. The card management system 44 stores the account information, including *the identifier* and the dollar value credited to the account, in a database."
>
> Accordingly, it is respectfully submitted that Tuchler explicitly teaches that the gift card, which is intended to be given away by the customer as a gift, does not correspond to a financial account of the customer *and that the account information, that is the financial account information, related to the gift card, is associated with a random identifier and not an identifier of the customer*.

Exhibit 5 at 10 (emphasis added).

Serverside also took issue with the Examiner's conclusion that Tuchler discloses a module configured to receive a customer identifier that corresponds to the remote customer that personalized the image, as follows:

> Tuchler relates to a method and system for producing personalized gift cards wherein a login page is provided to allow a customer to create a personalized account which details customer information along with the name of the intended recipient as well as the amount of money that the customer would like credited to the gift card (see Tuchler paragraph [0029]). Once the personalized account is created, the customer is directed towards a selection menu of templates for personalizing the gift card and which may allow a customer to upload a graphic image (see Tuchler paragraphs [0031] to [0034]). When the customer has finished personalizing the gift card, the customer is directed to a billing screen where the customer can select a payment option (see Tuchler paragraph [0036]). Finally, when the customer has selected a payment option and payment has been accepted, *a random alphanumeric identifier is assigned to the personalized data and creates an account identified by the alphanumeric identifier* and the gift card is credited with the dollar value selected by the customer for the intended recipient (see Tuchler paragraph [0039]).

> *There is no disclosure in paragraphs [0023] to [0025] of Tuchler of a customer identifier that corresponds to the remote customer that personalized the image as in the present application. The randomly assigned alphanumeric identifier disclosed in Tuchler paragraph [0039] is not a customer identifier,* as can be clearly understood from the explicitly stated requirement that it is "randomly assigned". In fact, *the random alphanumeric identifier of Tuchler does not relate to the customer that personalized the image but is assigned to the personalized data or the entered text messages and/or graphic images selected for the intended recipient* (see paragraph [0039] of Tuchler).
>
> Further, Tuchler states in paragraph [0039] that *the account which is credited with the dollar value is also identified by the random alphanumeric identifier.* Although *the random alphanumeric identifier of Tuchler can be used to identify the account associated with the gift card, this account is associated only with the gift card. It is not associated with the remote customer that personalized the image*.
>
> *Since Tuchler does not disclose any customer identifier that corresponds to the remote customer that personalized the image*, it is not possible for Tuchler to disclose a controller operable, based on said (undisclosed) customer identifier to cause printing of the personalized customer image onto the card material and the application of the relevant financial information onto the card material.

Exhibit 5 at 11-12 (emphasis added).

Finally, for present purposes, Serverside took issue with the Examiner's conclusion that Tuchler discloses that the image processor computer comprises a module for generating the customer identifier, as follows:

> As discussed above, paragraph [0039] of Tuchler discloses only generating *a random alphanumeric identifier which is assigned to the personalized data and used to identify an account. Such a random alphanumeric identifier,*

> *being random, cannot identify a customer. Accordingly, generating the random alphanumeric identifier cannot be regarded as generating a customer identifier.*
>
> Accordingly, it is respectfully submitted that Tuchler does not disclose the features of claims 15 and 16.

Exhibit 5 at 13-14 (emphasis added).

Notwithstanding that Serverside argued that Tuchler does not disclose a "customer identifier," only a "data identifier," in a further Office Action, Iowa Defendants' Exhibit 11—which was only submitted at the *Markman* hearing—the Examiner continued to describe Tuchler as disclosing a "customer identifier that corresponds to the remote customer that personalized the image." *See, e.g.,* Exhibit 11 at 4. Nevertheless, the Examiner found allowable subject matter, as follows:

> 8. Claims 24 and 25 are objected to as being dependent upon a rejected base claim, *but would be allowable if rewritten in independent form*, including all of the limitations of the base claim and any intervening claims.
>
> The following is an examiner's reason for allowance: Although prior art includes teachings of computerized financial transaction card production equipment operable to apply one or more personalized images to a financial transaction card, *the above identified prior art of record, taken alone, or in combination with any other prior art, fails to teach or fairly suggest the specific features of claims 24 and 25 of the present claimed invention. Specifically prior art fails to teach the computerized financial transaction card production equipment, wherein the customer identifier comprises an identifier selected from a secure unique identifier and a one-way code and furthermore fails to teach the computerized financial transaction card production equipment, wherein the customer identifier comprises a one-way code created by a one-way code function applied to financial account information of the remote customer.* These specific limitations are not disclosed in prior art and

> moreover, one of ordinary skill in the art would not have been motivated to come to the claimed invention.

Exhibit 11 at 7-8 (emphasis added). The parties agree that the Examiner also eventually allowed the claims of the '490 patent, in portions of the prosecution history not submitted before or at the *Markman* hearing.

b. Arguments at the hearing

The Iowa Defendants asserted that the prosecution history and disclaimers in the prosecution history are particularly important to the proper construction of patent claim terms and patent scope. They contended that this is true in this case, because Serverside has taken positions about other claim constructions in the Delaware action, specifically, as to whether or not "financial transaction cards" in the patents-in-suit should be construed to include "bearer cards," that were inconsistent with its arguments in the prosecution history. They pointed out that the Delaware court resolved the disputes over the construction of those claim terms on the basis of disclaimers in the prosecution history. The Iowa Defendants then reiterated and amplified their argument that Serverside disclaimed "a randomly generated alphanumeric code" for any "customer identifier," including "encrypted customer information," in the prosecution history of the patents-in-suit. The Iowa Defendants argued that Serverside has resurrected the argument that it made to the PTO that Tuchler teaches a "data identifier," not a "customer identifier," but they asserted that the PTO never accepted that argument.

More specifically, the Iowa Defendants explained that, in the Office Action in new Exhibit 10, the Examiner repeatedly recognized that Tuchler teaches a "customer identifier"; that, in Serverside's responsive argument, in Exhibit 5, Serverside attempted to rebut that reading of Tuchler by asserting that Tuchler teaches a "data identifier," not a "customer identifier," but also amended the patent claims to add what

is now the last limitation of claim **1** to each patent, which explains what the "customer identifier" can be—a "secure unique identifier" or a "one-way code" in the '199 patent, and "encrypted customer information" in the '490 patent; and Serverside then argued in its response to the Office Action, *see* Exhibit 5, at 9, that nothing in Tuchler teaches that "a random alphanumeric identifier" should instead be a "customer identifier" comprising "encrypted customer information," that "a randomly selected alphanumeric identifier," being random, cannot possibly comprise "encrypted customer information," and that there is a distinction between a "customer identifier" and a "data identifier." From this history, the Iowa Defendants argued that the reason for narrowing the definitions of "customer identifiers" in amended claims was to obtain patentability and that Serverside disclaimed "customer identifiers" that were "randomly generated alphanumeric codes."

The Iowa Defendants pointed to new Exhibit 11, at 4, the PTO's further Office Action after Serverside's arguments in Exhibit 5, as still referring to Tuchler as disclosing a module configured to receive a "customer identifier," and making further references to a "customer identifier" in Tuchler. Thus, the Iowa Defendants argued that the PTO never accepted Serverside's distinction between a "customer identifier" and a "data identifier." Instead, they argued, the PTO allowed claim **1** of the '199 patent, as explained in Exhibit 11, at 8, because prior art did not teach a "customer identifier" comprising an identifier selected from a "secure unique identifier" and a "one-way code," and elsewhere allowed claim **1** of the '490 patent, which teaches a "customer identifier" encompassing "encrypted customer information." This, they argued, shows that only these limitations of the "customer identifier" made them patentable, not the argument that Tuchler did not disclose a "customer identifier," only a "data identifier."

Finally, the Iowa Defendants argued that Serverside is now trying to recapture what it disclaimed. The Iowa Defendants argued that the notice function of the patents and their prosecution history is not served by allowing such recapture.

In response, Serverside argued that claim **1** of the '199 patent, as amended and allowed by the PTO, claims that the "customer identifier" "comprises" certain identifiers, but, in patent law, "comprises" is an open-ended term, meaning "including but not limited to." Thus, Serverside argued, claim **1** of the '199 patent does not limit the possible "customer identifiers" to a "secure unique identifier" and a "one-way code," and claim **1** of the '490 patent claims "encrypted customer information" only as an example of a "customer identifier." Serverside pointed out that there is no language in Exhibit 5 stating or implying that it was limiting the concept of "customer identifier" only to the categories expressly claimed. Serverside also argued that this "customer identifier" issue was "a side show," because the critical issue was whether Tuchler, which related only to a prepaid gift card or bearer card, was going to prevent Serverside's patents from issuing, and it did not. Serverside pointed out that it repeatedly argued in the prosecution of the patents-in-suit that a gift card does not have a "customer identifier," it only has an identifier corresponding to the card account, *i.e.*, a "data identifier," so that the card can be given to someone other than the customer. Serverside also pointed out that it argued to the PTO that the "random alphanumeric identifier" of Tuchler does not relate to "the customer that personalized the image," but is assigned to the personalized data or the entered text messages and/or graphic images selected for the intended recipient, and is associated only with the gift card, not with "the remote customer that personalized the image." None of these statements in the prosecution history, Serverside argued, is a statement that a "customer identifier" cannot be "a random alphanumeric code."

In rebuttal, the Iowa Defendants argued that I need not consider whether the PTO implicitly adopted Serverside's distinction between a "customer identifier" and a "data identifier," because the PTO explicitly continued to describe Tuchler as disclosing a "customer identifier" after Serverside asserted that distinction. Rather, the Iowa Defendants argued, the PTO allowed the claims after they were modified to add specific forms for the "customer identifier," demonstrating that the new claims were allowed because they disclaimed "a random alphanumeric identifier" for such a "customer identifier." The Iowa Defendants also urged me to find a disclaimer of "a random alphanumeric identifier" to keep Serverside from again changing its arguments about the meaning of claim terms. The Iowa Defendants argued that the disclaimer of "a random alphanumeric identifier" in the prosecution history at issue here is at least as clear as the disclaimer of "bearer cards" found by the Delaware court.

c. Analysis

As I noted above, the Iowa Defendants' rationale for inserting the "not a randomly generated alphanumeric code" limitation does not depend upon the specific claim term into which the Iowa Defendants would like that limitation inserted. On the one hand, neither the portions of the prosecution history that the Iowa Defendants relied on before the *Markman* hearing nor the additional portions that they relied on at the *Markman* hearing convince me that Severside disclaimed "a randomly generated alphanumeric code" as to *every* form of "customer identifier." On the other hand, the parts of the prosecution history specifically brought to my attention at the *Markman* hearing lead me to a different conclusion as to whether or not Severside disclaimed "a randomly generated alphanumeric code" as to a *particular form* of "customer identifier," specifically, "encrypted customer information"—even though the parties did not assert that there should or might be different results as to different forms of "customer identifiers." My analysis of whether or not Serverside disclaimed "a

randomly generated alphanumeric code" for the first and third disputed claim terms, therefore, is claim-term-by-claim-term.

i. Disclaimer as to "encrypted customer information"

I believe that an isolated question concerning insertion of the "but not a randomly generated alphanumeric code" here is whether or not Serverside disclaimed "a random alphanumeric identifier" as to "encrypted customer information" in claim **1** of the '490 patent and claims depending from it. The doctrine of claim differentiation supports the conclusion that independent claims of related patents that use different claim terms must have different scope. *See Kraft Foods, Inc.*, 203 F.3d at 1365-69 (noting that there is a presumption that two independent claims have different scope when different words or phrases are used in those claims). The prosecution history specifically cited at the *Markman* hearing has also led me to a conclusion about whether or not Serverside disclaimed "a random alphanumeric identifier" as to "encrypted customer information" that is different from my conclusion about whether or not Serverside did so as to "customer identifiers" generally. *See Deere & Co.*, ___ F.3d at ___, 2012 WL 6013405 at *2 (stating that "'[t]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which [it] appears, but in the context of the entire patent, including the specification,'" (quoting *Phillips*, 415 F.3d at 1313), and that "claim terms are understood in light of the specification").

As set out above, one of Serverside's responses to the Office Action in Exhibit 10, which rejected the claims of the patent application, was the following:

> Further, it is submitted that the Examiner's arguments regarding claims 15 and 16 identify the random alphanumeric identifier referred to in paragraph [0039] of Tuchler as corresponding to the customer identifier of the present invention. *Even if the randomly selected alphanumeric identifier was to be regarded as a customer*

> *identifier, however, it is randomly selected. Random selection cannot possibly comprise encrypted customer information.*
>
> There is nothing anywhere in Tuchler to teach or suggest in any way that the identifier of Tuchler, which is stated to be a random alphanumeric identifier, should instead be a customer identifier comprising encrypted customer information.
>
> Accordingly, it is submitted that amended claim 1 is not anticipated by Tuchler.

Exhibit 5 at 9 (underlining in the original; italics added). Although Exhibit 5 was submitted prior to my tentative draft ruling on claim construction, this passage was not pointed out to me until the *Markman* hearing. Furthermore, its specific effect on the third disputed claim term, "encrypted customer information," which is but one form of "customer identifier" claimed in the patents-in-suit, did not become clear to me until I considered it in the context of the parties' more general oral arguments about whether or not the "but not a randomly generated alphanumeric code" limitation should be part of the construction of *any* "customer identifier." I now conclude that this statement is a "'clear and unmistakable disavowal of scope during prosecution'" as to "encrypted customer information," *see Grober*, 686 F.3d at 1341 (quoting *Computer Docking Station Corp.*, 519 F.3d 1374-75); *01 Communique Lab.*, 687 F.3d at 1297, that is, it is a clear and unmistakable disavowal of a "randomly selected alphanumeric identifier" as "encrypted customer information," on the specific ground that "random selection" is not "encryption."

Serverside's arguments that there is no disavowal of claim scope, because this statement must be read in the context of the larger dispute about whether or not Tuchler discloses a method for personalizing anything other than "bearer cards," and in the context of a dispute about whether or not Tuchler discloses "customer identifiers" at

all, rather than "data identifiers," do not defeat this conclusion. In the prosecution of the patents-in-suit, Serverside argued that a "randomly selected alphanumeric identifier" is not "encrypted customer information," but Serverside specifically conceded, for the sake of this argument, that the "randomly selected alphanumeric identifier" could be "regarded as" a "customer identifier." Exhibit 5 at 9 ("Even if the randomly selected alphanumeric identifier was to be regarded as acting as a customer identifier, however, it is randomly selected. Random selection cannot possibly comprise encrypted customer information." (underlining in the original)).

Consequently, I now conclude that the construction of the third disputed claim term that "stays true to the claim language and most naturally aligns with the patent's description of the invention," and consequently, is "the correct construction" of this disputed claim term, *Phillips*, 415 F.3d at 1316 (stating this as the ultimate standard for claim construction), and, additionally, the construction that does not allow the patentee to recapture claim scope lost by a clear and unmistakable disavowal of scope during prosecution, *Grober*, 686 F.3d at 1341, does require insertion of a "but not a randomly generated alphanumeric code" limitation.

Specifically, my final construction of the third disputed claim term, "encrypted customer information," is "customer information coded from original text into language unintelligible to unauthorized persons, but not into a randomly generated alphanumeric code."

ii. Disclaimer as to "customer identifiers" generally

In contrast, I find no "clear and unmistakable" disavowal of "a randomly generated alphanumeric code" or a "random alphanumeric identifier" as "customer identifiers" generally. *Grober*, 686 F.3d at 1341. I cannot find such a disclaimer where Serverside argued, repeatedly, as to "customer identifiers" generally, that Tuchler did not disclose a "customer identifier" at all, but a "data identifier." *See*

Exhibit 5 at 10, 11-12 (quoted above). The difference between these statements and the statement that I concluded, above, disavowed "a random alphanumeric identifier" as to "encrypted customer information" is that these statements dispute not just *how* a customer is identified, but *whether* a customer is identified at all by the identifier described in Tuchler. As noted above, in the course of the prosecution of the patents, Serverside conceded, for purposes of its argument concerning "encrypted customer information," that Tuchler did disclose a "customer identifier." *See* Exhibit 5 at 9. Serverside did not do so as to any other "customer identifier" in any other part of the prosecution history that has been brought to my attention. The Iowa Defendants' argument that the Examiner never expressly adopted the "customer identifier"/"data identifier" distinction that Serverside asserted tells us nothing about whether or not Severside clearly and unmistakably disavowed claim scope when it insisted upon this distinction, because the issue for a disclaimer is Serverside's conduct, not the Examiner's. *See Grober*, 686 F.3d at 1341 (explaining that the question is whether the *patentee* made a "clear and unmistakable" disavowal of claim scope).[9]

[9] Indeed, I believe that Serverside is correct that Tuchler does not describe a "customer identifier" at all. Paragraph **[0035]** of Tuchler, which is quoted in pertinent part above, explains that text entered by the customer in "data entry fields," such as messages and/or graphic images, are what Tuchler meant by "personalized data." Paragraph **[0039]** of Tuchler then expressly describes "assign[ing] a random alphanumeric identifier to the personalized data and creat[ing] an account." Furthermore, paragraphs **[0022]** through **[0025]** of the Tuchler patent, which are also quoted above, and which the Examiner relied upon as disclosing a "customer identifier that corresponds to the remote customer that personalized the image," *see, e.g.,* Exhibit 10 at 3, simply do not do so. The "identification" to which those paragraphs of Tuchler refer is *card* identification or *card account* identification, not identification of the customer who purchased the card as a gift for someone else.

The one statement by Serverside in the prosecution history regarding whether "random alphanumeric identifiers" can, as a general matter, be "customer identifiers" is the only one cited by the Iowa Defendants in their pre-hearing briefing:

> As discussed above, paragraph [0039] of Tuchler discloses only generating a random alphanumeric identifier which is assigned to the personalized data and used to identify an account. *Such a random alphanumeric identifier, being random, cannot identify a customer*. Accordingly, generating the random alphanumeric identifier cannot be regarded as generating a customer identifier.

Exhibit 5 at 13-14 (emphasis added). At first blush, this statement appears to be analogous to the statement that I found was a disclaimer of "a random alphanumeric identifier" as to "encrypted customer information." A little deeper examination leads to a different conclusion, however.

As Serverside pointed out in pre-hearing briefing and at the *Markman* hearing, it insisted in the prosecution of the patents-in-suit that the "identifier" described in Tuchler was not a "customer identifier" at all, but a "data identifier," and the statement quoted just above is made in precisely that context, as indicated by the first sentence of the quoted paragraph. The "personalized data" to which the "random alphanumeric identifier" is assigned is described in Tuchler at paragraph **[0035]** as text entered by the customer in "data entry fields," such as messages and/or graphic images, not as personalized data of *the customer*, and paragraph **[0039]** explains that the account that the "random alphanumeric identifier" is used to identify is not an account *of the customer*, but the *card account*, which is credited with the dollar value selected by the customer. Thus, as Serverside argued, "[s]uch a random alphanumeric identifier," that is, one that identifies personal data entered by the customer to appear on the card and that is used to identify the card account, cannot identify the customer who purchased the card. Although Serverside argued in the prosecution of the patents-in-suit that

"[s]uch a random alphanumeric identifier, *being random*, cannot identify a customer," Exhibit 5 at 14 (emphasis added), this argument was still about *whether* a customer is identified at all by the identifier described in Tuchler, not just *how* a customer is identified.

Thus, I again conclude that this purported "disclaimer" does not even create an ambiguity about narrowing the "customer identifier," at least as claimed in the '199 patent, to exclude "a random alphanumeric code." *See Elbex Video*, 508 F.3d at 1371. Indeed, there is nothing resembling a "clear and unmistakable" disclaimer of a "random alphanumeric code" as a "customer identifier" within the meaning of the patents-in-suit. *Grober*, 686 F.3d at 1341; *01 Communique Lab.*, 687 F.3d at 1297.

Nevertheless, the Iowa Defendants argued at the *Markman* hearing that Serverside made an amendment in the course of prosecution of the application concerning what comprises a "customer identifier" by adding the last limitation of allowed claim **1** of the '199 patent, which narrows "customer identifier" to comprise "an identifier selected from a secure unique identifier and a one-way code," and we must now presume that such a narrowing amendment was made to obtain patentability over the "random alphanumeric identifier" in Tuchler. The Iowa Defendants are correct that a patentee must overcome a presumption that a narrowing amendment was made to secure the patent, and that the patentee can only do so by making a "strong showing" that there is some other explanation for the limitation. *Energy Transp. Group*, 697 F.3d at 1359. Even so, I have my doubts, in the first instance, that a presumption has arisen that any amendment was made to obtain patentability over the "random alphanumeric identifier" in Tuchler, and no doubts that, if the presumption has arisen, it has been overcome.

First, as to whether or not the presumption has arisen, I note that the Iowa Defendants have failed to point to any portion of the prosecution history that disclaims

a "random alphanumeric identifier" as a "secure unique identifier" or as a "one-way code" ("hash value") or that distinguishes a "secure unique identifier" or a "one-way code" from a "random alphanumeric identifier." Indeed, in the Office Action in Exhibit 10, the Examiner apparently concluded that a "random alphanumeric identifier" is a "secure unique identifier," because the Examiner stated that claims 24 through 26 were rejected on the ground that "Tuchler discloses in paragraph 0039, that the customer identifier comprises [a] secure unique identifier," Exhibit 10 at 5, and the only "identifier" described in paragraph **[0039]** of Tuchler is a "random alphanumeric identifier." Tuchler at ¶ **[0039]**.

Even assuming that the presumption arises, Serverside has made a "strong showing" that rebuts it. *Energy Transp. Group*, 697 F.3d at 1359. Although, in Exhibit 10, the Examiner disallowed dependent claims 24 through 26 of the application, in which the "customer identifier comprises a secure unique identifier," the Examiner observed, in Exhibit 11, that application claims 24 and 25 would be allowable "if rewritten in independent form, including all of the limitations of the [rejected] base claim and any intervening claims." Exhibit 11 at 7, ¶ 8. Indeed, the Examiner explained that such an independent claim would be allowable, because prior art did not teach the specific features of application claims 24 and 25, which claimed that the "customer identifier" comprises a "secure unique identifier." Exhibit 11 at 8. This conclusion appears to be directly contrary to the Examiner's earlier conclusion in Exhibit 10 that a claim in which the "customer identifier comprises a secure unique identifier" is not patentable over Tuchler. What changed between Exhibit 10 and Exhibit 11, then, must be the Examiner's belief that Tuchler disclosed a "secure unique identifier" by disclosing a "random alphanumeric identifier."

Moreover, as Serverside argued, claim **1** was not allowed because it was *limited* to a "customer identifier" that was limited to a choice of either (that is, selected from) a

"secure unique identifier" or a "one-way code," and neither such identifier was a "random alphanumeric identifier"; rather, the allowed claim states that the "customer identifier *comprises* an identifier selected from a secure unique identifier and a one-way code." '199 Patent, claim **1** (emphasis added). As Serverside pointed out, the Federal Circuit Court of Appeals has held that "an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in openended claims containing the transitional phrase comprising" unless a patentee has "'evidence[d] a clear intent' to limit 'a' or 'an' to 'one.'" *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008) (quoting *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000)); *accord ArcelorMittal France v. AK Steel Corp.*, 700 F.3d 1314, 1320 (Fed. Cir. 2012) ("'The transition 'comprising' creates a presumption . . . that the claim does not exclude additional, unrecited elements.'" (quoting *Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc.*, 246 F.3d 1336, 1348 (Fed. Cir. 2001)). Thus, claim **1**, as allowed, does not exclude additional, unrecited forms of the "customer identifier" other than "an identifier selected from a secure unique identifier and a one-way code," even supposing that prosecution history would not permit a "secure unique identifier" or a "one-way code" to be a "random alphanumeric identifier."

Thus, I now conclude that the construction of the second disputed claim term, "customer identifier that corresponds to the remote customer that personalized said image," that "stays true to the claim language and most naturally aligns with the patent's description of the invention," and consequently, is "the correct construction" of this disputed claim term, *Phillips*, 415 F.3d at 1316 (stating this as the ultimate standard for claim construction), and, additionally, the construction that does not allow the patentee to recapture claim scope lost by a clear and unmistakable disavowal of scope during prosecution, *Grober*, 686 F.3d at 1341, or a narrowing amendment to

obtain patentability, *see Energy Transp. Group*, 697 F.3d at 1359, does not require insertion of a "but not a randomly generated alphanumeric code" limitation.

Thus, my final construction of the first disputed claim term, "customer identifier that corresponds to the remote customer that personalized said image," is the same as my tentative construction, "a signal, character, or group of characters that matches with the customer that personalized the image."

III. CONCLUSION

Upon the foregoing, I construe the "undisputed" claim terms at issue in this patent infringement action as shown in the following chart:

UNDISPUTED CLAIM TERMS			
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Agreed Construction**
1	"financial transaction card"	'199: 1, 2, 9, 14-16, 18, 22, 25, 29 '490: 1, 2, 9, 14-16, 18, 22, 25, 29-31	"a transaction card (e.g., credit card, debit card, ATM card, or similar card), but not a prepaid bearer card"
2	"financial record of the remote customer that personalized the image"	'199: 1 '490: 1	"record of financial information of the customer that personalized the image"
3	"one-way code"	'199: 1	"a hash value created from customer information"
4	"image processing means for providing an image, produced based on said instructions for manipulation, for application to the financial transaction card"	'490: 30-31	Means plus function term, with the function being "providing an image, based on instructions for manipulation, for application to the financial transaction card," and the associated structure being "an image processor (see, e.g., back end software 110 and image manipulation emulator 256)"

UNDISPUTED CLAIM TERMS			
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Agreed Construction**
5	"means for embedding the customer identifier in the personalized image"	'199: 25 '490: 25	Means plus function term, with the function being "embedding the customer identifier in the personalized image" and the associated structure being "a back end server (such as server 1103 or 1203) that embeds the customer identifier in the personalized image, for example by embedding the identifier in a bar code, machine readable code, or metadata"
6	"computer program means for presenting to a remote customer the remote user interface" "computer program means for presenting to a remote customer a user interface" "computer program means for presenting to a remote user an user interface"	'199: 30 '490: 30-31	The three phrases are means plus function claim terms, with the function being "presenting to a remote customer or remote user a user interface" and the associated structure being "a user interface (see, e.g., front end software 105 and Figs. 3-10)"
7	"image instruction means for receiving instructions for manipulation of an image file. . . ." (The language following this phrase differs somewhat in the 3 claims where it appears.)	'199: 30 '490: 30-31	The phrase is a means plus function claim term, with the function being "receiving instructions for manipulation of an image file" and the associated structure being "an image compilation server coupled to a communications link (see, e.g., image compilation server 108)"
8	"an identifier selected from a secure unique identifier and a one-way code"	'199: 1	"a customer identifier that is chosen from one of two available options: a secure unique identifier or a one-way code"
9	"instructions defining said plurality of manipulations applied to the graphical representation"	'199: 29 '490: 29	"instructions for implementing all of the manipulations that a remote user applies to a graphical representation on a remote terminal"

Upon the foregoing, I also construe the "disputed" claim terms at issue in this patent infringement action as shown in the following chart:

DISPUTED CLAIM TERMS							
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Serverside's Proposed Construction**	**Iowa Defendants' Proposed Construction**	**Court's Tentative Construction**	**Iowa Defendants' Proposed Revised Construction[10]**	**Court's Final Construction**
1	"customer identifier that corresponds to the remote customer that personalized said image" "customer identifier corresponding to the remote customer"/ "customer identifier that corresponds to the remote customer" "unique identifier corresponding to the remote user"	'199: 1-4, 6-8, 10-13, 15, 17-18, 20-21, 24-28 '490: 1-4, 6-8, 10-13, 15, 17-18, 20-21, 24-28, 30-31	No construction required. If construed, then: "information used to identify the remote customer or user."	A unique code, but not a randomly generated alphanumeric code, generated by performing a transformation on a customer's financial account information, such as the customer's name or account number, but not generated using information provided by the customer.	"a signal, character, or group of characters that matches with the customer that personalized the image"	"a <u>unique</u> signal, character, or group of characters, <u>but not a randomly generated alphanumeric code</u>, that matches with the customer that personalized the image"	"a signal, character, or group of characters that matches with the customer that personalized the image"

[10] The Iowa Defendants' Proposed Revised Construction for each disputed claim term is shown as I have placed the proposed limitations (shown underlined), not as the Iowa Defendants suggested at the *Markman* hearing that these limitations be placed.

DISPUTED CLAIM TERMS							
No.	**Claim Term/Phrase**	**Relevant Claim(s)**	**Serverside's Proposed Construction**	**Iowa Defendants' Proposed Construction**	**Court's Tentative Construction**	**Iowa Defendants' Proposed Revised Construction[10]**	**Court's Final Construction**
2	"secure unique identifier"	'199: 1	No construction required. If construed, then: "unique identifier which is secure"	Indefinite. In the alternative, if not indefinite: "encrypted customer information."	"a secure, unique signal, character, or group of characters that can be used to identify the customer"		"a secure, unique signal, character, or group of characters that can be used to identify the customer"
3	"encrypted customer information"/ "encrypted remote user information"	'490: 1, 29-31	No construction required. If construed, then: "customer or remote user information which has been encrypted or encoded"	"a unique code, but not a randomly generated alphanumeric code, generated within a secure environment by performing a transformation on a customer's financial account information"	"customer information coded from original text into language that is unintelligible to unauthorized persons"	"customer information coded from original text into unique language unintelligible to unauthorized persons, but not into a randomly generated alphanumeric code"	"customer information coded from original text into language unintelligible to unauthorized persons, but not into a randomly generated alphanumeric code"

IT IS SO ORDERED.

DATED this 4th day of March, 2013.

Mark W. Bennett

MARK W. BENNETT
U.S. DISTRICT COURT JUDGE
NORTHERN DISTRICT OF IOWA