UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION

CLEAR WITH COMPUTERS, LLC **Plaintiff**	
	Civil Action No. 6:09-cv-00479
v.	
HYUNDAI MOTOR AMERICA, INC., **Defendant**	
HYUNDAI MOTOR AMERICA, INC., **Plaintiff**	**JURY TRIAL DEMANDED**
v.	**Civil Action No. 6:08-cv-00302**
CLEAR WITH COMPUTERS, LLC, **DEFENDANT**	

EXPERT REPORT OF DR. V. THOMAS RHYNE

EXPERT REPORT OF DR. V. THOMAS RHYNE

TABLE OF CONTENTS

EXPERT REPORT OF DR. V. THOMAS RHYNE

1. INTRODUCTION

1. In this litigation Clear With Computers, LLC (FORMERLY KNOWN AS "Orion" and referred to as "CWC" herein) has asserted that Hyundai Motor America ("HMA" herein) infringes and has infringed one or more of claims 1, 2, 3, 7, 8, 9, 11, 12, 13, 17, 18, 19, 20, 21, 24, 25, and 26 of U.S. Patent No. 7,606,739 ("the '739 patent" herein) which is owned by CWC. In this expert report, where appropriate, I refer to the claims listed above collectively as the "Asserted '739 Claims."

1.1 Overall Opinion of Infringement

2. As explained in detail later in this expert report, based on my study of the '739 patent and the accused HMA systems it is my opinion that the HMA-designed *www.hyundaiusa.com* website, including the *www.hyundaiusa.com/thinkaboutit* microsite,[1] and the *www.hyundaigenesis.com* website, all of which are addressed in this expert report, have performed and continue to perform various methods that literally infringe one or more of the Asserted '739 Claims. Note that in this expert report when I refer to the *www.hyundaiusa.com* website in general terms, I intend for that reference to include all three of those websites.

3. This expert report sets forth my opinions of infringement in detail, including identifying and providing examples of the manner in which the methods performed by HMA and/or its agents or contractual partners meet each claim limitation of the Asserted '739 Claims. This expert report also provides the bases for those opinions.

1.2 Retention

4. I have been retained as an independent expert witness in this litigation by CWC. I was also retained by CWC in its prior litigation with HMA. In this litigation I am being paid for my

[1] HMA refers to this webpage as a "microsite," a term explained in Wikipedia as "A **microsite**, also known as a landing page, minisite or weblet, is an Internet web design term referring to an individual web page or cluster of pages which are meant to function as an auxiliary supplement to a primary website. The microsite's main landing page most likely has its own domain name or subdomain. This is also known as niche marketing."

work on this case at my current consulting rate of $650/hour plus reimbursement of direct expenses. I have no personal interest in this litigation.

5. My qualifications for forming the opinions set forth in this report are summarized in § 2 below and are explained in more detail in my *curriculum vitae* which is attached as part of Exhibit A to this report. Exhibit A also includes a list of my publications and a list of the cases in which I have testified at deposition, hearing, or trial during the past four years.

6. All of the opinions stated in this report are based on my own personal knowledge and professional judgment; if called as a witness during the trial in this matter I am prepared to testify competently about them.

1.3 Qualifications

7. I have studied, taught, and practiced electrical engineering for almost fifty years. I hold degrees from Mississippi State University (Bachelors of Science in Electrical Engineering with Honors, 1962), the University of Virginia (Masters of Electrical Engineering in 1964), and the Georgia Institute of Technology (Ph.D. in Electrical Engineering, 1967). I have been a Registered Professional Engineer in the State of Texas since 1969. I have been a Registered Patent Agent since 1999.

8. I taught electrical engineering, computer engineering, computer architecture, and computer science at the undergraduate and graduate levels full-time at Texas A&M University from 1967 to 1983 and part-time at the graduate level at the University of Texas from 1983 to 1991. My twenty-plus years of industrial experience include work at the Electric Power Research Institute, Texas Instruments, Control Data Corporation, NASA, Texas Digital Systems, Inc. (a company I co-founded to produce microprocessor-based computer peripherals in 1976), the Microelectronics and Computer Technology Corporation (MCC), and Motorola, Inc.

9. I have extensive experience with computer technology, including design and teaching experience with a variety of computer systems, microcomputer systems, and microcontrollers. I have participated in the design of several computer systems and microprocessors, and have designed systems which made use of those devices as controllers. I am familiar with a variety of computer architectures and am an experienced programmer in a variety of programming

languages as well as assembly-level language on a number of different computers and microprocessors. I have been an Internet user since the early 1990's.

10. Based on my academic and consulting experience I am familiar with a variety of computer interfaces, website operations, and data-communications protocols. I have managed large and complex software-development programs and have been and am familiar with the Internet and its use for providing services to users. Prior to joining MCC I was responsible for bringing access to the ARPANET to Texas A&M University, an activity which gave me insight and experience with the exchange of information over wide-area networks. I later assisted MCC's information technology department in linking MCC's local-area network first into the ARPANET and later into the Internet.

11. While at MCC I managed MCC's research and development programs dealing with graphical user interfaces, natural-language interfaces, and early website development tools. In the early 1990's MCC researchers developed one of the first web browsers with search engine capabilities, and I was one of the early alpha testers for that effort.[2] I managed distributed database development for several years at MCC, as well as MCC's successful R&D program on Internet-based credit card fraud detection using neural networks. More recently, I have worked as a technical expert on several patent cases dealing with complex software systems, including Internet-based support for generating "leads" identifying individuals who have expressed an interest in making a car purchase, computer-assisted product configuration systems, and systems for providing Internet search and ad serving. My litigation work has also included cases dealing with XML and HTTP.

12. I have chaired and otherwise participated in a number of national and international IEEE and ISO/IEC standards committees.

13. During my academic career I authored thirty technical papers. I have also presented papers at thirty-seven conferences and authored an award winning textbook, *Fundamentals of Digital System Design,* published by Prentice-Hall in 1973 and adopted at over thirty-five U.S. and international universities during its lifetime. My textbook has been cited as a reference by

[2] Researchers within MCC's EINet Program developed a browser named "Galaxy" in the 1994-95 time period. That program was spun-out of MCC in April of 1995. *See*, for example, the press release archived at *scout.wisc.edu/Projects/PastProjects/NH/95-04/95-04-25/0016.html*. Many of the researchers who worked in the EINet Program had previously worked for me as part of the MCC CAD Program.

the U.S. Patent and Trademark Office. I have also served as a technical reviewer for Prentice-Hall, the *IEEE Transactions on Computers,* and *IEEE Spectrum*.

14. I was elected to serve on the IEEE Board of Directors for two terms representing the engineering education community and the IEEE Computer Society. I was also elected to two terms as the IEEE Treasurer and served one term on the Board of Governors of the IEEE Computer Society.

15. I have extensive experience with the accreditation of engineering and computer science programs in the U.S. and abroad, an activity which has provided me an excellent opportunity to become and remain familiar with the program curricula, faculties, and graduates from a large number of U.S. and international colleges and universities. I represented the IEEE for five years on the Engineering Accreditation Commission and for six years on the Board of Directors of the Accreditation Board for Engineering and Technology (ABET). In 2004 I completed a three-year *pro bono* assignment assisting Japanese universities and industries in the establishment of the Japanese Accreditation Board for Engineering Education (JABEE), and have led several other international accreditation missions.

16. I was appointed by the U.S. National Research Counsel to the Panel of Assessment for the Electronics and Electrical Engineering Laboratory of the U.S. National Institute of Standards and Technology. I served on that Panel for seven years, including three terms as its chair, and I provided invited testimony before the U.S. Congress regarding the status of the Laboratory.

17. My experience and qualifications have been recognized by the Texas Society of Professional Engineers (Young Engineer of the Year in Texas, 1973), the American Society for Engineering Education (Terman Awardee as the "Outstanding Young Electrical Engineering Educator in the U.S.," 1980), the Institute of Electrical and Electronics Engineers (IEEE Fellow, 1990, recognizing my contributions to "computer engineering and computer engineering education), the Accreditation Board for Engineering and Technology (ABET Fellow, 1992), and the IEEE Computer Society (Golden Core Awardee, 2000).

18. I retired from full-time work as of 1997 and draw retirement benefits from Texas A&M University. In addition to the full-time work described above and in my *curriculum vitae*, I have worked part-time as a consulting engineer for the past thirty years doing computer systems

design, application-specific system design, and expert witness work in intellectual property litigation.

2. MY UNDERSTANDING OF THE RELEVANT LEGAL PRINCIPLES

19. In this section of my expert report I provide my understanding of the currently applicable legal principles which I have used in forming the opinions set forth herein.

2.1 Claim Construction

20. I understand that claims of a patent are to be construed based on their claim language, the patent's specification, and the patent's file history. I understand I am also free to look at extrinsic evidence to help decipher the meaning and construction of the claims, including but not limited to sources such as appropriate dictionaries, the general knowledge of one skilled in the art, treatises, white papers, relevant journals, *etc.*, as long as that extrinsic evidence does not contradict the patent's claims, file history, or specification.

21. I also understand that following from the *Markman* case, during litigation the Court may provide constructions of terms from an asserted patent's claims. In that regard, I have reviewed the claim constructions found in the December 15, 2005 MEMORANDUM OPINION provided by the Court in the prior litigation (the "First Opinion" herein) and the claim constructions provided in the January 5, 2011 MEMORANDUM OPINION AND ORDER provided by the Court in the current litigation (the "Second Opinion" herein). For all other relevant terms set forth in the Asserted HMA Claims, I have used the ordinary and customary meaning of those terms as understood by one skilled in the art in view of the associated specification and prosecution history.

22. I also respectfully reserve the right, if allowed, to supplement this expert report to make use of any additional claim constructions provided by the Court or any additional discovery obtained subsequent to the completion of this initial expert report.

2.2 The Level of Ordinary Skill in the Art

23. Based on my review of the '739 patent, as well as my industrial and academic experience, I believe that a person of ordinary skill in that art would have, as of the 1992 time

frame, an accredited bachelors degree[3] in electrical engineering, computer engineering, or computer science, coupled with one to two years of post-graduate experience relating to the operation and functionality of Internet-based websites.

2.3 Direct Infringement

2.3.1 Infringement by a Single Party

24. It is my understanding that to prove direct infringement by a single party, a patent holder must establish by a preponderance of the evidence that one or more claims of the asserted patents read on the accused device made, used, or sold by that party, or that method is performed by that single party in the U.S., either literally or under the doctrine of equivalents, where each element of a claim is material to defining the scope of the patented invention. Thus, the absence of even a single claim limitation from a device or method precludes a finding of infringement of that claim against that single party.

25. It is my further understanding that a proper infringement analysis requires a two-step process consisting of:

a. Construing the asserted claims to determine their scope and meaning as discussed above in § 2.1; and

b. Comparing the construed claims to the accused device or method, and that literal infringement requires that the accused device made, used, or sold by the single party contains each and every limitation of the asserted claim, or that the method performed by that single party contains each step in a claimed method.

2.4 Joint Infringement

26. It is my understanding that in the situation in which more than one party is required to perform the steps of a claimed method, there can be liability for infringement where one party exercises 'control or direction' over the entire process such that every step is attributable to that controlling party. One party can be vicariously liable for the acts of another in circumstances

[3] The accreditation of engineering programs in the U.S. is performed by volunteers working under the auspices of the U.S. Accreditation Board for Engineering and Technology (ABET). I have many years of experience with that body and its engineering accreditation activities.

showing that the liable party controlled the conduct of the acting party, because it would be unfair for the mastermind in such situations to escape liability. In addition, a party cannot avoid infringement simply by contracting out steps of a patented process to another entity. In summary, there can be joint infringement only when there is an agency relationship between the parties who perform one or more of the steps of a method claims or when one party is contractually obligated to the other to perform those steps.

2.5 Indirect Infringement

27. It is my understanding that indirect infringement can be either contributory or induced and requires a finding of underlying direct infringement.

2.5.1 Induced Infringement

28. It is my understanding to show infringement by inducement, the patentee must establish that: (1) there has been direct infringement, (2) the alleged infringer knowingly induced infringement, and (3) the alleged infringer possessed specific intent to encourage another's infringement. Thus, in order to prove induced infringement a patent holder must prove that the accused infringer intended to cause the acts that resulted in the direct infringement and knew or should have known that its action would cause that direct infringement.

2.5.2 Contributory Infringement

29. It is my understanding that in order to establish liability for contributory infringement, the plaintiff must show that: (1) an act of direct infringement occurred; (2) the defendant knew that the combination for which its component was especially made was both patented and infringing; and (3) the defendant's components have no substantial non-infringing uses. It is my further understanding that in order to prove the requisite knowledge required for contributory infringement, a patent holder must establish that an accused infringer had both knowledge that its component was especially made or adapted for a particular use and knowledge of the patent which proscribed that use, as well as the time when such knowledge was obtained.

2.6 The Doctrine of Equivalents

30. I also understand that, alternatively, a structure or method may be found to infringe under the doctrine of equivalents. It is my understanding that in order to meet an element of a claim

under the doctrine of equivalents, the differences between the accused structure and the corresponding structure of the claim element must be insubstantial. In assessing infringement under the doctrine of equivalents, the goal is to assess whether a person of ordinary skill in the art would consider the differences between the claimed limitation and the element in the accused product to be "substantial."

31. I further understand that substantiality can be measured in several ways. One test of substantiality is whether the element in the accused structure or method, when compared to the elements of a claim, is found to perform substantially the same function in substantially the same way to achieve substantially the same result as does the element in the claim.

32. It is also my understanding that there are several restrictions on application of the doctrine of equivalents. First, the range of equivalents cannot be so broad as to encompass the prior art. Second, the doctrine of prosecution history estoppel precludes a patentee from reclaiming through equivalents subject matter that was relinquished based on statements or amendments during prosecution. Finally, the "all elements" rule prevents the doctrine of equivalents from eliminating an element in its entirety.

2.7 Proving Infringement

33. It is my understanding that the burden of proving infringement is the preponderance of the evidence presented.

34. I also understand that every limitation is essential and that the absence of any one limitation from a claim avoids infringement of that claim. It is my further understanding that, to infringe a dependent claim, the accused product must include each and every limitation of all claims from which it depends.

3. OVERVIEW OF THE '739 PATENT

35. The '739 patent is based on U.S. Application Ser. No. 09/566,029 which was a continuation of Application Ser. No. 08/823,534, filed Mar. 24, 1997 and later abandoned. The '534 Application was a continuation of Application Ser. No. 08/596,575, filed Feb. 5, 1996 and issued as U.S. Pat. No. 5,615,342 on March 25, 1997 which was asserted in the prior litigation between CWC and HMA. The '342 Application was a continuation of Application Ser. No. 07/878,602, filed May 5, 1992, which issued as U.S. Pat. No. 5,493,490 on February 20,

1996. All of those prior Applications are incorporated into the '739 patent by reference. *See* the '739 specification at 1:4-11. Because the '739 patent is a continuation of the '342 patent, those two patents have identical specifications. The '739 patent claims priority back to the '602 application (May 5, 1992).

36. On pages 1 and 2 the December 15, 2005 MEMORANDUM OPINION issued by the Court in the prior litigation between CWC (then "Orion") and HMA*, et al.*, the Court described the '342 patent as:

> *The '342 patent generally describes an electronic system for creating customized product proposals. The system queries a user to determine a customer's needs and interests and then uses stored pictures and text segments to create a customized proposal that appeals to the customer.*

37. That description is equally applicable to the '739 patent, meaning that the common specification of the '324 and '739 patents discloses novel methods of computer-assisted creation of proposals which are customized for potential purchasers of the products described in those proposals (the "customers"). Prior-art approaches to the proposal-creation process involved such things as pre-printed generic brochures or standardized catalogs. Those sources of information were not customized to a potential customer's needs or interests and, as a result, generally contained information of little or no value to a customer. The inventions set forth in the Asserted HMS Claims offer methods of providing potential customers information of direct interest to them in the form of a targeted proposal that they themselves help create as those methods are performed.

38. The '739 patent is entitled "Electronic proposal preparation system." As explained in its Abstract, the '739 patent discloses and claims:

> *An electronic system for creating customized product proposals stores a plurality of pictures and text segments to be used as building blocks in creating the proposal. The pictures may include various products, environments in which the products may be used, and available product options. The text segments may include textual descriptions of the product, environments in which the product may be used, and its performance specifications. The system queries a user to determine a customer's needs and interests. Based upon the answers to the*

queries, the system selects the appropriate picture and text building blocks to fill in proposal templates. The system can print the completed proposal templates to provide the user with a customized, printed proposal that describes features and benefits of a product, in a particular environment, that are of interest to the customer who is to receive the proposal.

39. In addition, the '739 patent discloses and claims a customizable database for holding data about customers. That database is referred to as an "active" database that is customizable with that customer information. For example, all of the Asserted '739 Claims include the limitation of "a selection device operatively interconnected to an active database, the active database configured to electronically store customer information obtained via the user interface." In addition, the '739 specification explains, "The user interface 102 provides means for inputting the customer identification data of the individual customer who is to receive the proposal" (13:1-3), and "The active database 103 obtains the specified customer information from the CustomerData object 136 stored within the current proposal object 110" (13:41-43).

40. The Asserted '739 Claims include independent method claims 1 and 11, which are defined as a set of steps that include the step of generating a visual output by a selection device operatively interconnected to an active database and, when performed, result in a customized proposal. The Asserted '739 Claims also include independent system claim 20, which is defined as a system which includes an active database for generating a customized proposal.

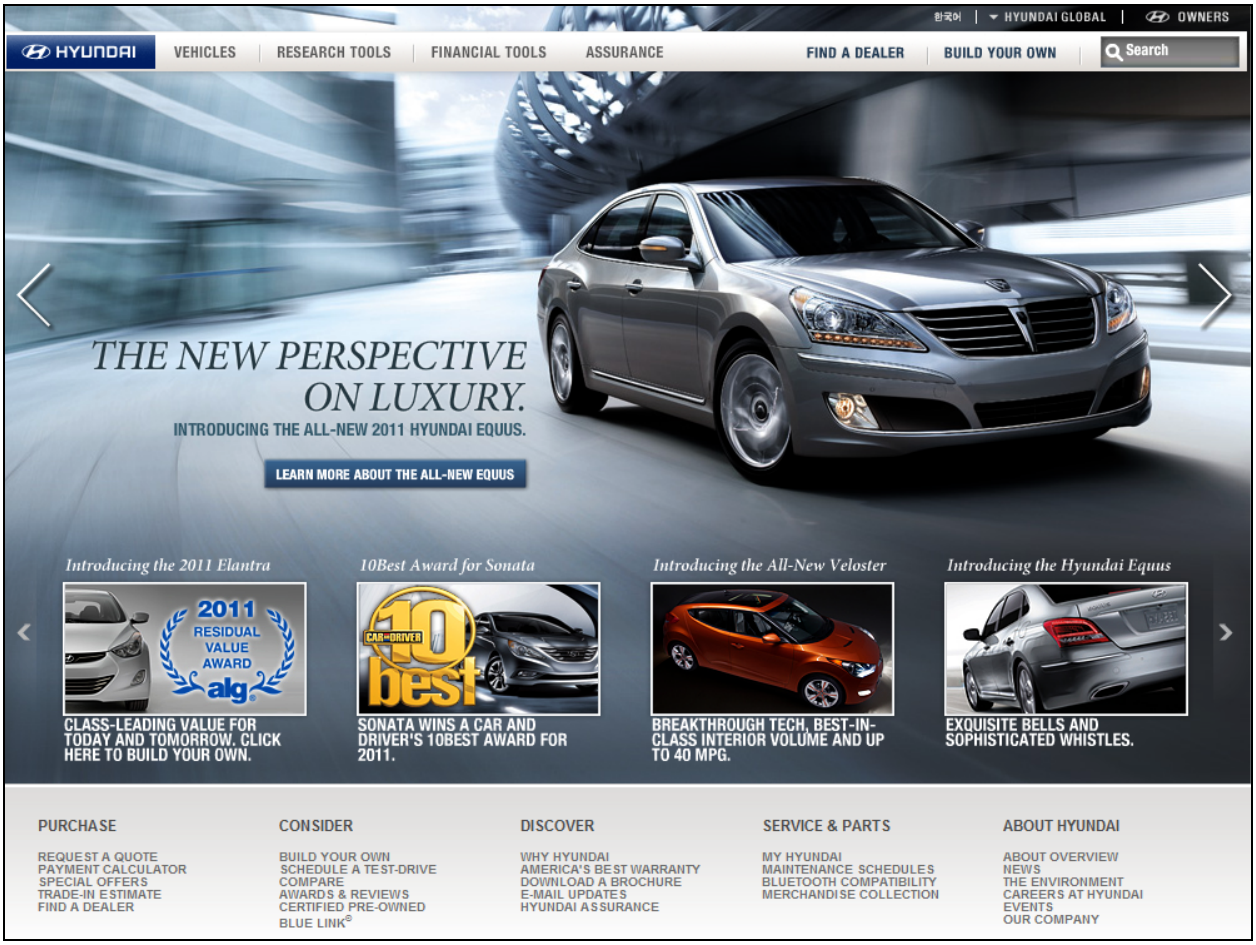
4. THE ACCUSED HMA SYSTEM

41. HMA[4] provides and/or has provided an Internet-based system which has been identified and studied by myself and another software analyst, Mr. Dan Manheim, and which, based on that study, has been accused of infringement of one or more of the Asserted '739 Claims. The visible evidence of that system is the publicly available HMA website *www.hyundaiusa.com*, including

[4] HMA referred to the *www.hyundaiusa.com* website as its "corporate website" on page 6 of the May 12, 2006 DEFENDANT HYUNDAI MOTOR AMERICA'S OBJECTIONS AND RESPONSES TO ORION IP, LLC'S FIRST SET OF INTERROGATORIES. Hyundai also stated during the prior litigation that the aesthetics of the *www.hyndaiusa.com* website were revised in October 2005. Hyundai has stated in the current litigation that the *www.hyundaiusa.com* website changed again on December 1, 2009. *See*, for example, the McLeod deposition at 1:4-22 . The versions of the website used by Hyundai since the issuance of the '739 patent on Oct. 20, 2009, are substantially similar with regard to the aspects relevant to my infringement analysis. *See*, for example, the McLeod deposition at pages 164:2-166:5 .

the *www.hyundaiusa.com/thinkaboutit* microsite and *www.hyundaigenesis.com* website. That HMA system generates a proposal for the sale of Hyundai vehicles that is customized according to input provided by the user ("customer"). Each webpage sent to the user forms a portion of the proposal, both individually and collectively. A list of the materials that I have considered in my analysis and in the development of my opinions as set forth in this expert report is provided in Exhibit B.

42. An example screenshot taken from the proposal at the home page of the *www.hyundaiusa.com* website (captured on January 27, 2011) is shown below.



43. As the above screenshot shows, HMA's *www.hyundaiusa.com* website provides both pictorial images and text to its viewers. That information is defined using the *lingua franca* of the Internet – Hypertext Markup Language or "HTML."[5] The HTML definitions for each of the

[5] For a general explanation of HTML *see* en.wikipedia.org/wiki/HTML.

screen images provided by the *www.hyundaiusa.com* website are supplied to viewers of the website through their Internet connection to a specific server among the set of servers that HMA leases to support access to that website. Those HTML descriptions, commonly known as the "HTML source" for each screen image, were developed Hyundai Information Services, North America, ("HISNA") on behalf of HMA and then stored on the servers which support access to the *www.hyundaiusa.com* website. *See*, for example McLeod[6] at 125:11-129:12. In response to an interested party who uses a computer and web browser, one of the servers that have been contracted for by HMA[7] generates the HTML source, including data from one or more databases, and sends it to that computer where the browser translates the HTML source into a screen image such as the one shown above. The initial lines of the HTML for that particular screen are shown below, taken from its *source* view:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
      <meta      http-equiv="Content-Type"      content="text/html;
charset=utf-8" />

<title>Hyundai Motor America: New Cars, Sedans, Coupes, SUVs,
Compacts, Luxury, Performance, Vehicles</title>
<meta name="keywords" content="new cars, new car, hyundai cars,
hyundai car, new vehicle" />
<meta name="description" content="Discover new cars from Hyundai
with sleek exteriors, well appointed interiors, top safety
features, great gas mileage, and America's best warranty. Learn
about Hyundai cars; then test drive the Hyundai car of your
choice. Find your new car now." />
      <link rel="icon" href="/favicon.ico" />
      <!-- GLOBAL CSS -->

<link     rel="stylesheet"     type="text/css"     charset="utf-8"
href="/css/hyundai_main.css" media="all" />
<link     rel="stylesheet"     type="text/css"     charset="utf-8"
href="/css/hyundai-sifr-alt.css" media="all" />
<link   id="CSS_linkSection"   rel="stylesheet"   type="text/css"
charset="utf-8" media="all" href="/css/hyundai-home.css"></link>
<link     rel="stylesheet"     type="text/css"     charset="utf-8"
href="/css/hyundai_print.css" media="print" />
<link  href="http://fast.fonts.com/cssapi/f2e67b03-da23-439d-9373-
cb18369a7cd8.css" rel="stylesheet" type="text/css" />
```

[6] "McLeod" refers to the rough transcript of the January 19, 2011 deposition of Mr. Robert McLeod.

[7] HMA contracts with Partners Consulting for hosting for three webservers and two SQL database servers. *See*, for example, Ton at 47:10-49:7 and McLeod 8:3-9 . HMA also uses Akamai for distributed content caching services. *See*, for example, Ton at 47:23-48:9 and McLeod at 21:17-24 .

```
      <!-- GLOBAL JS -->

<script type="text/javascript" src="/js/environment.js"></script>
<script                                    type="text/javascript"
src="/js/swfobject/swfobject.js"></script>
<script           type="text/javascript"           src="/js/flash-
detect.js"></script>

<script       type="text/javascript"       src="/js/jquery/jquery-
1.3.2.min.js"></script>
<script             type="text/javascript"             src="/js/js-
compressed.js"></script>
```

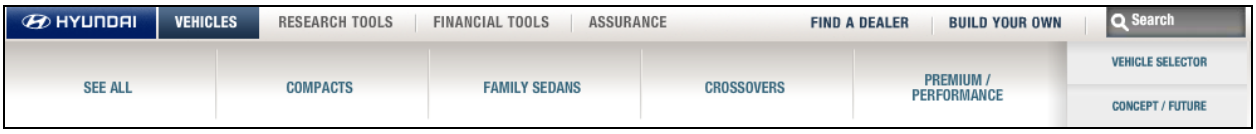
44. The key concept to be understood here is that the HTML source files that HMA supplies via the *www.hyundaiusa.com* servers is a template that includes the content (images, text, video, flash, *etc.*) that those servers provide. That HTML source identifies the pictures that are included in each screen image and the text that is included in those images along with the pictures. Each picture is identified by a linkage that is placed in the HTML source. That linkage identifies the server where the image file (such as a *.JPG file) is located and the pathname for accessing that image file. Collectively, the HTML source files provided by HMA identify each and every part of the screen images that make up the *www.hyundaiusa.com* website, as well as the linkages that provide navigation from one of those images to others.

45. That collection of HTML source files and the picture files that the HTML references, along with the server software that supplies those source and image files to the computer systems of those individuals who access the *www.hyundaiusa.com* website, make up the entirety of that website. In this expert report, therefore, when I refer to the "*www.hyundaiusa.com* website" I am referring collectively to the data files, the servers, and the software which supply the HTML to accessing individuals, including the HTML source files and the ASPX files that generates them, as well as to the linked image files that make up that website and the *www.hyundaiusa.com/thinkaboutit* microsite and the linked *www.hyundaigenesis.com* website.

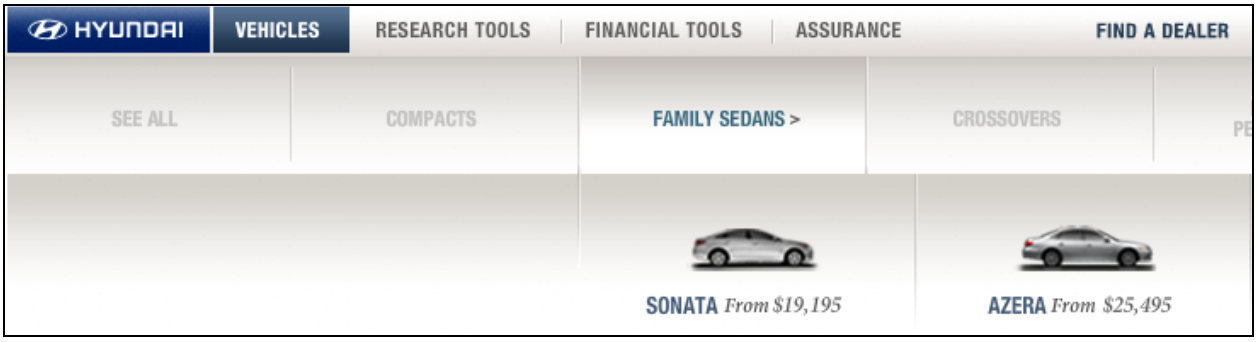
46. The *www.hyundaiusa.com* website allows potential U.S. HMA customers as well as HMA personnel to perform a sequence of steps to identify the vehicle(s) they are interested in possibly purchasing by navigating through a directed series of webpages. As prompted by the website, a potential HMA customer or employee navigates through those webpages by answering a sequence of questions posed to them by that website. As a result, they are presented

with a series of pictures and text which allow them to see a customized presentation regarding the Hyundai vehicle(s) of particular interest to them. For example, the home page shown above includes the link to HMA's "VEHICLES" system at the top left of that screen image, as shown in the partial image copied below:

47. By selecting the "VEHICLES" link, a HMA customer or employee has answered "YES" to the question "*Would you like to see the types of vehicles offered by HMA?*" being posed to them by the *www.hyundaiusa.com* website. In response, that website presents a menu of HMA vehicle types available to the customer or employee. That menu is shown below. (Note that the "VEHICLES" link is dark blue indicating the "YES" answer provided by the customer placing their mouse icon in that area of the overall screen image).

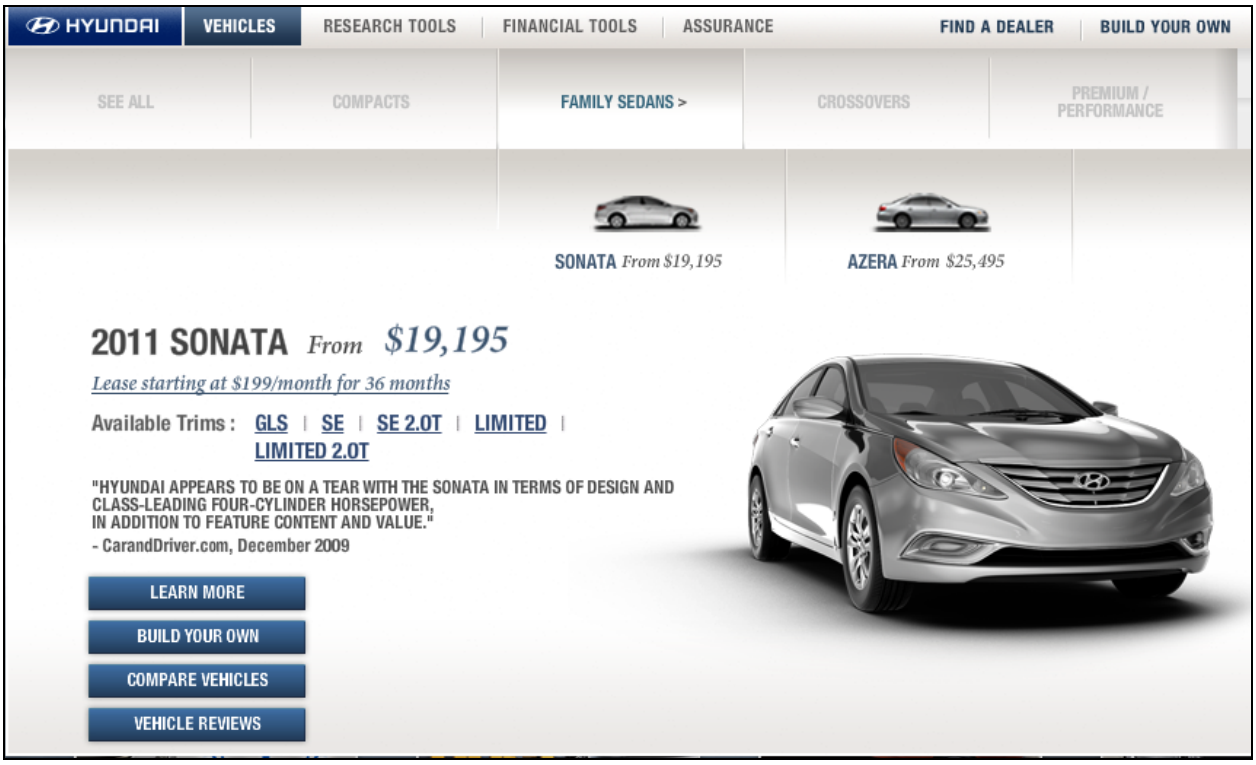


48. Upon selecting one of the newly presented links in order to answer the question "*Which specific type of HMA vehicle are you interested in?*" the customer is presented with a drop-down menu identifying the various vehicles within the selected type. Assuming that they have answered the question as "FAMILY SEDANS," the two members of HMA's "FAMILY SEDANS" family of vehicles – the Sonata and the Azera are identified by a new drop-down menu. That added menu is shown below:



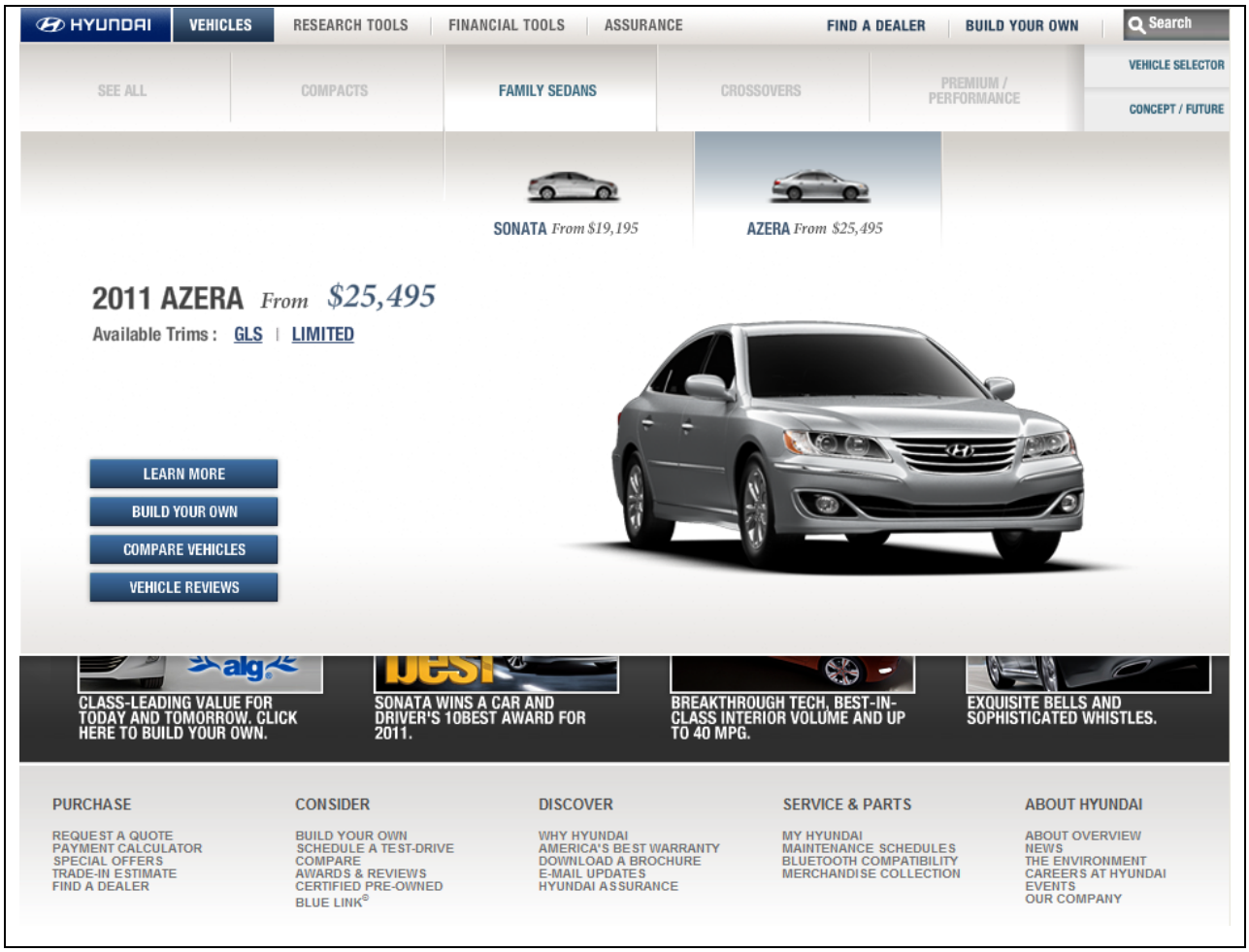
49. In addition to the menu shown above, the *www.hyundaiusa.com* website displays a picture of one of the selected class of vehicles and other information about that vehicle. An example of that screen is shown below. Note that in displaying that screen the HMA

www.hyundaiusa.com website defaults to the first vehicle type – in this case the Sonata Family Sedan.



.

50. If the customer is interested in the Azera rather than the Sonata, by using the Azera link shown in the above image to answer the question "*Are you interested in the Azera Family Sedan?*" the customer is presented with the screenshot shown below:



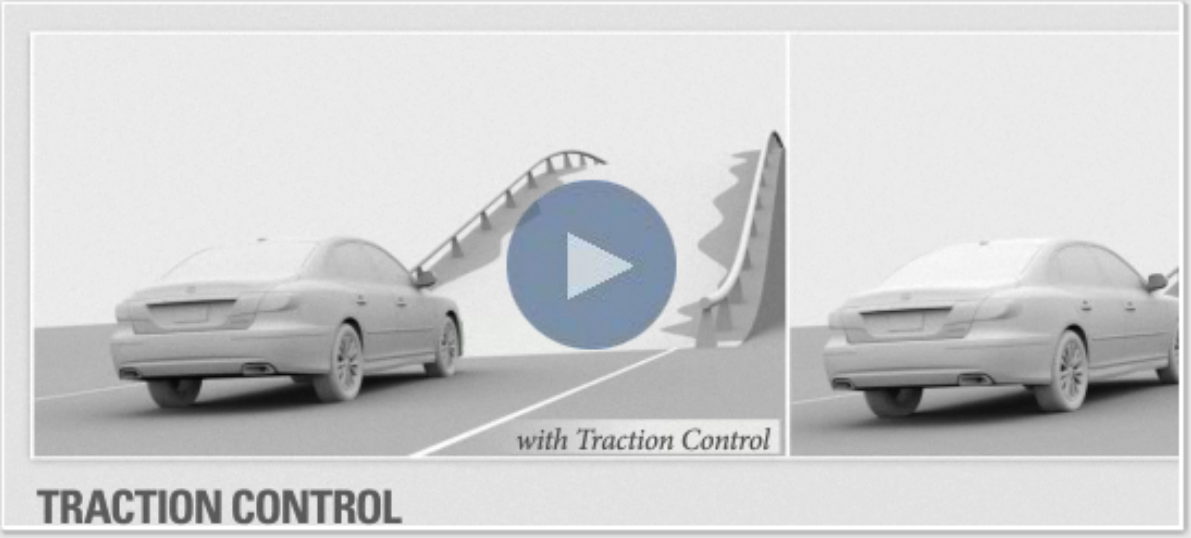
51. Among the information shown in the above screenshot is a link entitled "LEARN MORE." By selecting that link the customer answers the question "*Would you like learn more about the Azera?*" Upon selecting that link the customer is presented with a webpage showing an Azera Family Sedan that describes that specifically selected vehicle. That screenshot is shown below in two parts:


HYUNDAI
VEHICLES
RESEARCH TOOLS
FINANCIAL TOOLS
ASSURANCE
FIND A DEALER
AZERA
GALLERY
EXTERIOR
INTERIOR
SAFETY
PERFORMANCE
2011
Azera
GLS SELECTED
SELECT LIMITED
From
$25,495 MSRP
BUILD YOUR OWN
VIEW SPECS & TRIM
Shopping?
REQUEST DEALER QUOTE
PAYMENT CALCULATOR
TRADE-IN ESTIMATE
DOWNLOAD AN E-BROCHURE
Still Deciding?
SCHEDULE A TEST DRIVE
COMPARISON TOOL
SEE OTHER VEHICLES
AMERICA'S BEST WARRANTY
10 Year / 100,000 Miles
CONNOISSEURS OF COMFORT: REJOICE.
Roomy, refined, and loaded with standard features. The 2011 Hyundai Azera is the perfect combination of comfort and convenience. With 123.5 cu. ft inside, the Azera boasts more total interior volume than Toyota Avalon, Mercedes E-Class sedans and the BMW 750i.
And it comes available with power-adjustable tilt-and-telescopic steering wheel, integrated memory system, power rear sunshade, heated front seats and standard XM Satellite Radio.
For years, the Azera has been described by the press and by owners as a nearly unbeatable combination of luxury and value, and also one of the automotive industry's best-kept secrets.
Consider the secret officially out.
MORE ABOUT THE INTERIOR

QUIET CONFIDENCE.

Some might say performance doesn't matter in a luxury car. If that were the case, luxury cars would be nothing more than economy cars with added equipment. At Hyundai, we think of performance as another form of luxury, but we also believe performance is more complex than the sum of a car's test data. Instead, we judge a car by asking one very important question: How well does it measure up to expectations? Hyundai engineers tried to go one step further, by engineering the Azera's performance to exceed expectations with responsive power, confident maneuvering and low noise levels.

MORE ABOUT THE PERFORMANCE



IMPRESSIVE SAFETY.

The Hyundai Azera is equipped with a long list of active and passive safety features, including eight standard airbags[11], a high-tensile steel unibody, active front head restraints, Electronic Stability Control, a Traction Control System[3], and an intelligent braking system. Also standard: peace of mind.

MORE ABOUT THE SAFETY

SPEAK SOFTLY.

The Hyundai Azera pays homage to the saying "fashion fades, style endures" by designing a car for those who champion quality and intelligent design over showiness. To that end, the goal for the Azera's exterior styling was to exude confidence and avoid gimmicks, while still maintaining the functional comfort that buyers of this class of car demand. Adding to the already sophisticated look of the Azera, we've enhanced the exterior with many premium updates such as a bolder front grille design, chrome tipped dual exhaust integrated into the bumper, 17" alloy-wheels and LED rear tail lights.

MORE ABOUT THE EXTERIOR

AZERA | GALLERY | EXTERIOR | INTERIOR | SAFETY | PERFORMANCE | SPECS & TRIM

52. As the above screenshots show, by answering a sequence of question posed to them by the *www.hyundaiusa.com* website, a customer specifically interested in additional information about the HMA Azera Family Sedan is provided a proposal that includes several images of the

Azera Family Sedan itself, images of the Azera Family Sedan in a typical environment (including a video of the Azera trying to drive over an icy bridge with and without "Traction Control"), text describing various aspects of the Azera's specifications and performance, and even the MSRP for purchasing that selected vehicle. Further, as I explained above, that proposal was defined by HMA through use of HTML source code which is stored on a server supporting the *www.hyundaiusa.com* website. That HTML includes identification of the images and video shown above, as well as the text included in the proposal. I discuss that HTML further later in this expert report.

53. As mentioned above, in this expert report, references to the *www.hyundaiusa.com* website include the *www.hyundaiusa.com/thinkaboutit* microsite and the linked *www.hyundaigenesis.com* website. The *www.hyundaiusa.com/thinkaboutit* pages are clearly a part of the *www.hyundaiusa.com* website, as evident from their URL, and their links back to the *www.hyundaiusa.com* webpage.[8] The *www.hyundaigenesis.com* website is also controlled by Hyundai and contains links to the *www.hyundaiusa.com* webpage. These webpages also include elements of the invention, as indicated in the attached claim charts attached as Exhibit C to this expert report. The claim charts in Exhibit C provide additional evidence supporting my analysis as set forth in this expert report.

54. With regard to the physical servers that are used to implement the *www.hyundaiusa.com* website, as I explained briefly above, that arrangement involves four parties: Hyundai Motors America ("HMA"), Hyundai Information Services North America ("HISNA"), Partners Consulting, and Akamai Corporation. As explained by Hyundai witnesses, HMA has contracted with HISNA for the provision of information technology ("IT") services and specifically to maintain the Hyundai website. *See*, for example, McLeod[9] at pages 126:12-127:25. HISNA tests code changes before they are pushed into production at the content delivery service companies. *See*, for example, McLeod at pages 57:18-58:7 and 68:7-69:20.

[8] *See* the "learn about our product" and "locate a dealer" links at the bottom of the *www.hyundaiuse.com/thinkaboitit* webpage. Both of those links direct the user back to the *www.hyundaiusa.com* webpage.

[9] It is worth noting that Messrs. McLeod and Ton, HMA's designees on technical issues in this case, are actually employees of HISNA. *See* McLeod at 7:19-22 and 11:4-12:9 and Ton at 3:10-25 and 17:19-189:9. This is consistent with my understanding that HMA controls the relationship with HISNA regarding the Hyundai website.

55. HISNA contracts with two companies, Partners Consulting and Akamai, for content delivery services, *i.e.*, for leasing the servers that host the *www.hyundaiusa.com* website. *See* McLeod at page 48:20-49:16 and 52:7-9 (HISNA contracts with Partners Consulting for the HMA web servers); 49:17-19 and 51: (HISNA contracts with Akamai for content delivery) and Ton[10] at pages 21:17-22:7 (HISNA contracts with Partners Consulting and Akamai, which just host the *www.hyundaiusa.com* website together). HISNA has contracted with Partners Consulting for the use of four web servers and two SQL servers. HISNA uses "Open Deploy" software to push new versions of the code and content to the pre-production web server (web 1) at Partners Consulting and also "controls the copying from Partners web 1 [the pre-production web server] to web 2, 3, 4 [the three actual hosting web servers]." *See* McLeod at 59:25-63:6. *Also see* McLeod at 69:11-20 (process similar for Hyundai Genesis webpages). HISNA controls the relationship with Partners Consulting regarding the Hyundai website. *See* Ton at 8:14-21 (Partners Consulting had no input into the substance of the website).

56. HISNA contracts with Akamai for content delivery services, especially the caching of large files used by the website. *See* McLeod at 52:17-53:7. HISNA specifies the portions of the Hyundai USA website that Akamai hosts or caches. *See* McLeod at 53:9-22. When updating the website, HISNA tells Akamai which files to purge and thus obtain new versions. *See* McLeod at 63:25-64:9. HISNA thus controls the relationship with Akamai regarding the *www.hyundaiusa.com* website on behalf of HMA.

57. HMA marketing and HISNA test changes made to the Hyundai website. *See* McLeod at 69:3-7. HMA marketing has final approval for changes to the Hyundai website before they are pushed into production. *See* McLeod at 58:8-10 and Ton at 27:8-11.

5. PREPARATION FOR THIS REPORT

58. Given its public nature, I have investigated the *www.hyundaiusa.com* website myself, and the opinions and evidence regarding that website contained in this expert report are based on that investigation, as well as the deposition testimony and other evidence provided to me in this case. In so doing I have captured a number of screen images that set forth the imagery that the *www.hyundaiusa.com* website provides to users who perform the steps that it prompts them to

[10] "Ton" refers to the rough transcript of the January 31, 2011 deposition of Mr. Duy Ton.

do. I note here, however, that the *www.hyundaiusa.com* website provides a large number of navigational pathways to its users. I have investigated many, but not all, of those pathways. In this expert report I provide screenshots and explanations identifying representative pathways which are sufficient to support my opinions of infringement.

59. I note again that in addition to my own study of the *www.hyundaiusa.com* website, Mr. Dan Manheim, a consulting expert retained by CWC, has also studied that website, including study of the Microsoft IIS and .net software[11] that support its operation and the databases that hold the ASPX and the images identified in the HTML that is generated by that ASPX. He and I have discussed his findings, but in preparing this expert report I have confirmed his findings through my own study and analysis. I have also made a trip to Tyler, TX along with Mr. Manheim to study HMA's production of source code and related materials myself. That study took place on February 5, 2011.

60. This expert report is based on my study of the information available to me at the time of its writing. I respectfully reserve the right, if allowed, to update, supplement, or amend this report in view of additional information obtained through discovery or other information that may become available between now and trial that is significant to the opinions set forth in this report.

6. INFRINGEMENT OF THE '739 PATENT

6.1 Overall Opinion

61. As noted above, based on my study and analysis, I believe that the software of the *www.hyundaiusa.com* is a computer program product readable by a computing system comprising instructions that, when executed, cause a processor meet the limitations of the asserted claims of the '739 patent.

[11] Microsoft described the IIS web server software as "IIS7 is a completely modular, extensible Web server which can be customized and extended to meet the needs of every Web professional." *See www.iis.net/overview/ModularAndExtensibleWebServer*.

6.2 Independent Claim 1

6.2.1 Preamble

1. A computer program product readable by a computing system comprising instructions that when executed cause a processor to:

6.2.1.1 Claim Construction

62. Absent a construction from the Court, I have considered this Preamble to be a limitation of claim 1. I have also used the common understanding of the terms of this Preamble in forming my opinions regarding that claim. For example, I have interpreted the term "product" to mean "something produced by human or mechanical effort or by a natural process." That meaning is found, for example, in The American Heritage Dictionary (Second College Edition, 1991) at page 988.

6.2.1.2 Infringement by HMA

63. In the case of the *www.hyundaiusa.com* website, the "computer program product" of this Preamble is the configured version of Microsoft IIS server software executed by the server hardware, as well as the application code or web server .net[12] code, including ASPX/HTML/c# source files and the content identified in the HTML, like image files, flash/shockwave/swf files, XML, and tags. *See*, for example, McLeod at 57:8-17. That collection of software and data collectively define the screen images and navigation pathways of that HMA website. Clearly, each of those software, source, and data files is a computer program product readable by a computer system (the HMA servers at Partners Consulting). Each of those files provides instructions which cause the processors within those servers to implement the operations defined by it in order to serve the *www.hyundaiusa.com* website. *See*, for example, McLeod at 103:2-9 and 105:6-14, as well as Ton at 126:20-22. Thus, the Preamble of claim 1 is literally met by that website.

[12] Pronounced as "dot net."

6.2.2 Step 1a

receive answers to a plurality of questions from a specific customer related to at least one of a desired feature and desired use by the customer of a tangible product for sale from a user interface;

6.2.2.1 Claim Constructions

64. In addressing the proper construction of the phrase "a plurality of questions related to at least one of a desired feature and desired use of the product" (a phrase similar to that of Step 1a that is found in some of the claims of the '342 patent), the Court stated on pages 7 and 8 of the First Opinion that "Orion contends that the phrases mean there are desired features and desired uses and the questions must relate to at least one of those—the questions must relate to either desired features, or desired uses, or both. The Court agrees. The specification does not require questions and answers on both features and uses." I have used that explanation in addressing the scope of the similar limitation of Step 1a of the '739 patent, as well.

65. Further, on page 9 of the First Opinion the Court noted that "Defendants contend 'questions' [as used in some of the claims of the '342 patent] should be construed to mean: 'More than one inquiry that requests an answer and ends with a question mark. Commands and statements are not questions. Menus presenting options are not questions. Words or phrases not in question form that are selected with a cursor or selection device are not questions.'" The Court disagreed with that narrow proposed construction, concluding on page 11 of the First Opinion that "…there is nothing in the prosecution history indicating that the Applicant disclaimed a broader meaning of 'questions.' Further, there is no reason within the patent to believe the Applicant used 'questions' in any manner besides its ordinary meaning. Accordingly, there is no need to construe the term, much less to stringently limit the meaning of 'questions' as Defendants would like." I have used that explanation in addressing the meaning of the term "questions" in Step 1a of the '739 patent, as well.

66. On pages 11 and 12 of the First Opinion the Court also stated that the terms "features of the products" and "uses of the products" should be given their ordinary meaning. I have

therefore used the ordinary meanings of "a desired feature and desired use … of a tangible product" in Step 1a.

6.2.2.2 Infringement by HMA

67. My study of the *www.hyundaiusa.com* website has shown that when a potential purchaser of a HMA vehicle accesses that website, the Microsoft IIS server software of that website, the web server .net code, and the source and content files define a sequence of user interfaces which ask that customer to answer a plurality of questions to guide their navigation through the images provided by that website. As an example of the required "plurality of questions," a customer interested in the Azera Family Sedan will supply answers to the following sequence of questions posed to them by the *www.hyundaiusa.com* website:

1. *Would you like to see the types of vehicles offered by HMA? YES*
2. *Which type of HMA vehicle are you interested in? A FAMILY SEDAN*
3. *Are you specifically interested in the Azera Family Sedan? YES*
4. *Would you like learn more about the Azera Family Sedan? YES*

I explained and illustrated that sequence of questions and answers in § 4 above.

68. As the customer answers each of those questions, their answers (as identified through the links they select on the screens presented to them by the *www.hyundaiusa.com* website) are sent back to the computer system (the server) of that website that they are communicating with through the Internet. By executing its server software and, as a result, supplying the HTML source for the screen images posing each of the above questions, that computer system receives the customer's answers over the Internet, thereby meeting the limitations of Step 1a.

69. Testimony from HMA designees confirms my understanding that the HMA website has a user interface. *See,* for example McLeod at pages 112:3-21 ("Q Does the Hyundai USA website have a user interface? A Yes.") and Ton at 125:13-126:19.

70. As to the requirement of Step 1a for "questions from a specific customer related to at least one of a desired feature and desired use by the customer of a tangible product for sale," as I noted above, the Court previously determined that answering questions relating to either a desired feature *or* a desired use would meet that limitation of Step 1a, and the

www.hyundaiusa.com website clearly receives answers from a customer using it which relate to desired features. For example, the proposal shown in the screenshot of ¶ 51 above presents the customer with links which seek to elicit answers to six additional questions:

5. *Would you like to see a gallery of pictures showing the Azera Family Sedan?*
6. *Would you like to learn more about the exterior of the Azera Family Sedan?*
7. *Would you like to learn more about the interior features of the Azera Family Sedan?*
8. *Would you like to learn more about the safety features of the Azera Family Sedan?*
9. *Would you like to learn more about the performance of the Azera Family Sedan?*
10. *Would you like to learn more about the specifications and trim of the Azera Family Sedan?*

71. Upon receiving a "YES" answer in response to any of those questions, the *www.hyundaiusa.com* website retrieves and transmits new HTML source, along with the images and additional text on the selected topic which are identified in that HTML source. For example, if a customer answers Question No. 9 above (Performance) with a "YES," the server for the *www.hyundaiusa.com* website will access the HTML source which defines the composite visual image shown, in two parts, below. That image includes a picture of the Azera Family Sedan in a product environment (a rainy street) and text which describes the performance of the Azera Family Sedan.

HYUNDAI | VEHICLES | RESEARCH TOOLS | FINANCIAL TOOLS | ASSURANCE | FIND A DEALER

AZERA | GALLERY | EXTERIOR | INTERIOR | SAFETY | PERFORMANCE

2011
Azera

GLS SELECTED
SELECT LIMITED

20/29 MPG | 260 HP | Seats 5

From
$25,495 MSRP

BUILD YOUR OWN
VIEW SPECS & TRIM

Shopping?
REQUEST DEALER QUOTE
PAYMENT CALCULATOR
TRADE-IN ESTIMATE
DOWNLOAD AN E-BROCHURE

Still Deciding?
SCHEDULE A TEST DRIVE
COMPARISON TOOL
SEE OTHER VEHICLES

AMERICA'S BEST WARRANTY
10 Year / 100,000 Miles

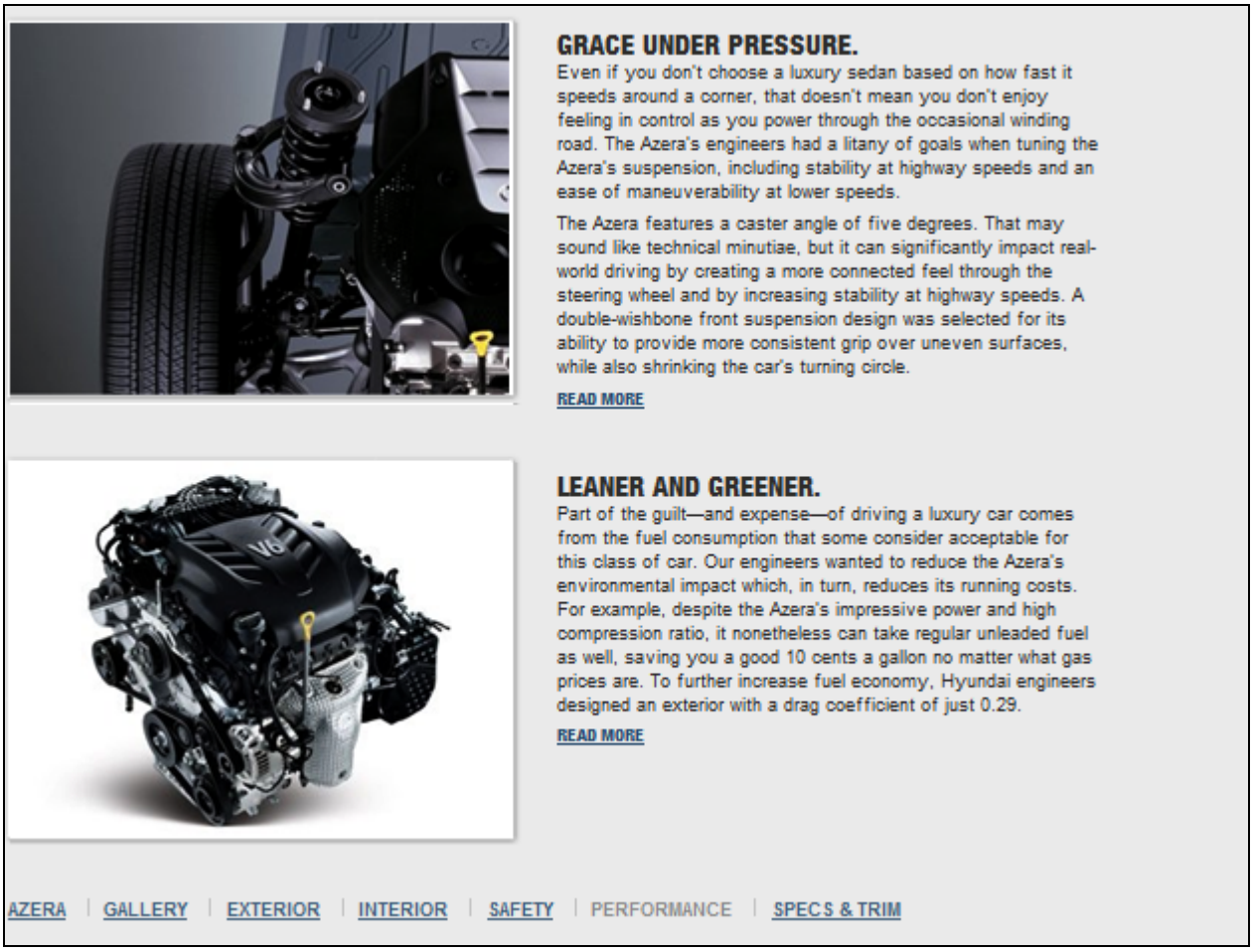
EFFORTLESS RESPONSE.

When you press the gas pedal on a luxury car, it should accelerate smartly. No question there. But how it goes about that process is what separates an average car from a luxury car.

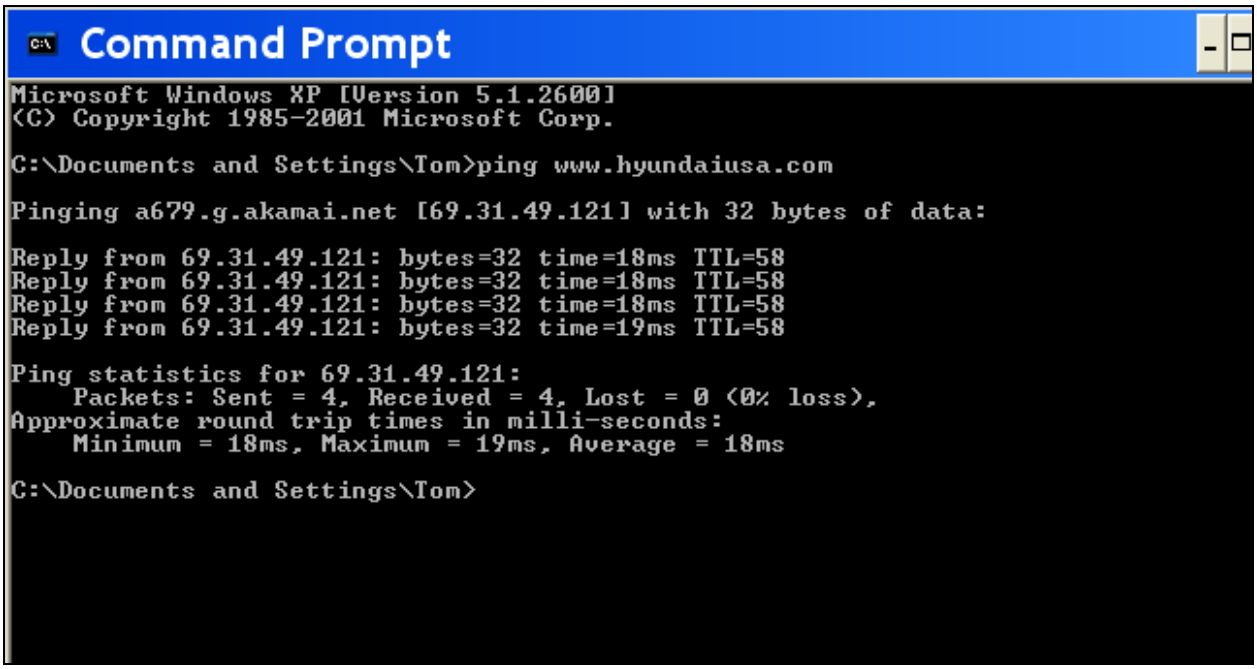
Drive the Azera and you'll notice the sensation of having deep reserves of power—its V6 engine includes technologies like Continuously Variable Valve Timing and a Variable Intake System, and is generously sized to produce strong torque at low engine speeds. Details like iridium-tipped spark plugs and a high 10.4:1 compression ratio further enhance the engine's sensitivity to your every request.

Adding to this responsiveness is a six-speed automatic transmission that is adept at choosing the right gear at the right time. If you want to make those decisions yourself, just move the gear selector over to the SHIFTRONIC® gate for added control.

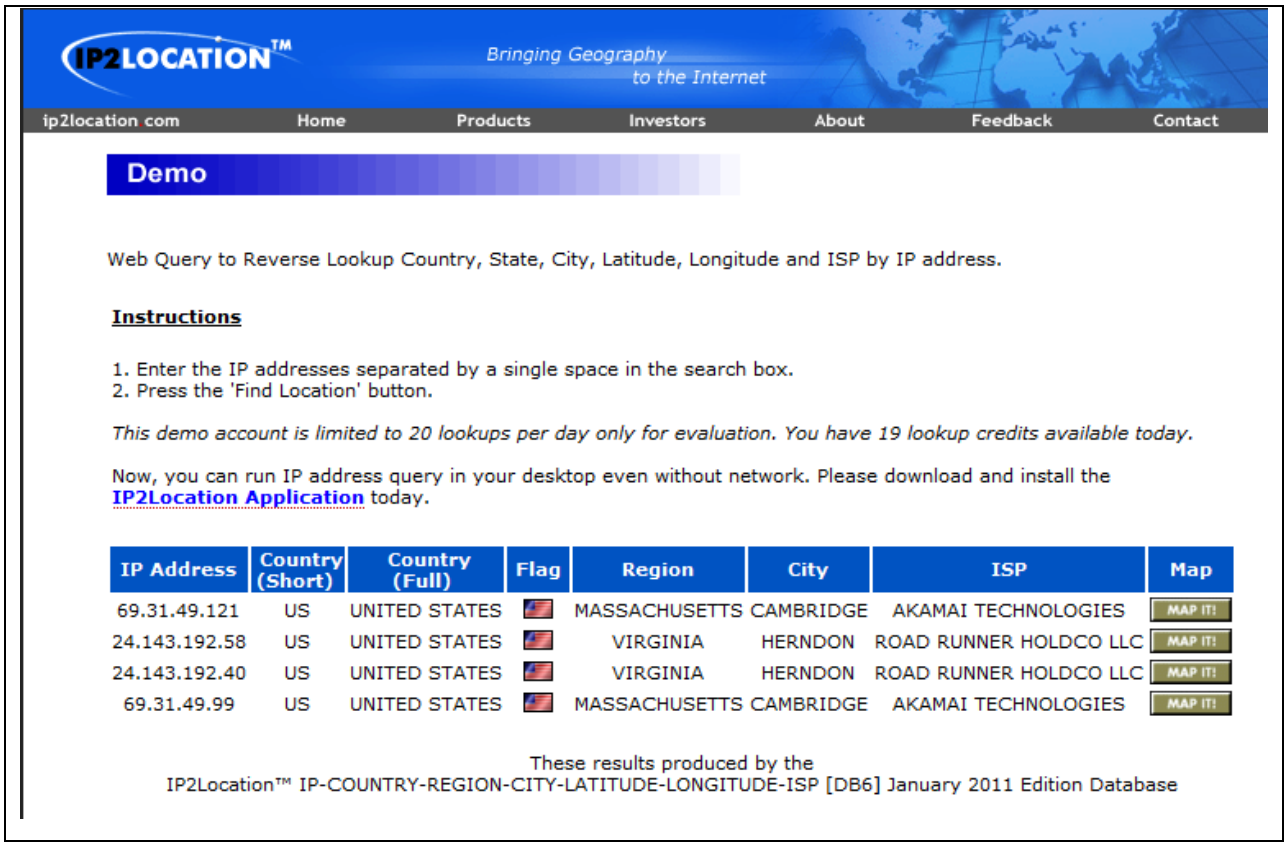
The Azera's feel of unruffled composure stems from the engine's high refinement when doing its work. The links and sprockets on the maintenance-free timing chain were reshaped and vital components in the engine and transmission were stiffened, not just to reduce noise but also to make the sounds you do hear more pleasant to the ear. Like an orchestra, every piece in the ensemble is in perfect tune.



72. The answering selections made by the users in answering the questions posed to them by the *www.hyundaiusa.com* website are received by one of the servers used by HMA for that website. To investigate those servers I have "pinged" that website in order to identify at least one physical server that supports it as of January 2011. An example of that "ping" operation is shown below. The server responding to that particular ping had the IP ("Internet Protocol") address of 69.31.49.121. I also "pinged" the *www.hyundaigenesis.com* website, obtaining the IP address of 209.66.93.69.



73. During my "ping" investigations I identified two Akamai server sites supporting the *www.hyundaiusa.com* website. Using the IP addresses of those sites, I then identified their physical locations by using the IP2LOCATION.com Internet utility. The results of that usage are depicted below:



74. As shown above, the *www.hyundaiusa.com* website is served from at least two Akamai Technologies servers located in Cambridge, MA. As described above, those Akamai servers cache the larger files of the *www.hyundaiusa.com* website. *See*, for example, McLeod at 52:17-53:22.

75. Testimony from HMA witnesses explains the entirety of the HMA website systems. For example, the code and content files are tested on HISNA servers in Irvine, CA. *See* McLeod at 57:18-58:7 and 68:7-69:20. After testing and final approval by HMA marketing, HISNA pushes these files to web 1 – the pre-production web server at Partners Consulting. HISNA uses "Open Deploy" software to push new versions of code and content to the pre-production web server (web 1) at Partners Consulting and also "controls the copying from Partners web 1 [pre-production web server] to web 2, 3, 4 [the three hosting web servers]." *See* ¶ 55 above. The Partners Consulting web servers store a complete version of the Hyundai USA website. See McLeod at 52:7-9.

76. The Partners Consulting web servers in conjunction with the Akamai servers host the Hyundai USA website. The Akamai servers cache the larger files used by the website (like

shockwave (*.swf) files, movies, audio, and picture files) as directed by HISNA. Requests for the Hyundai USA URLs are directed to Akamai, and the Linux and Windows operating systems on the Akamai servers initially attempt to respond to users with its cached files. *See* McLeod at 52:17-53:7. *Also see*, for example, the Dilley, *et al.*, article, "Globally Distributed Content Delivery (*IEEE Internet Computing*, Sept.-Oct. 2002).[13] Some code, for example the ASPX files and HTML code, are not cached at the Akamai servers. In that case the files will be obtained from the Partners Consulting servers.

77. "GET" requests asking for *www.hyundaiusa.com* HTML code are forwarded to the Partners Consulting web servers where a combination of the Internet Information Services version 7 (IIS7) software and the web server .net code locates the appropriate ASPX file, uses it to generate the corresponding HTML code, and sends that code back to Akamai and thus to the user. *See*, for example, Ton at 34:1-40:11 43:16-53:4. Subsequent requests, like requests for picture (*.jpg) files by a browser rendering a webpage based on the provided HTML code, are served by the operating systems of the Akamai servers if the file has been cached by Akamai.

78. As Mr. Ton explained, each click by a user of the *www.hyundaiusa.com* website that requests a new page corresponding to a new URL is transmitted first to an Akamai server. That Akamai server operating system first checks to determine if the file is cached at Akamai, and if so, the operating system will send the file. The Akamai server will not have the HTML code to provide in response to a request for a new URL. The Akamai server will then pass the request on to the Partners Consulting server. There, the software executing on the Partners Consulting web server (IIS7)and the .net code) locate the appropriate ASPX file(s) and then generate the HTML file for the requested page, as necessary, and send it to Akamai and thus the user.

79. Some portions of the Hyundai USA website run Shockwave Flash (*.swf) files. These files typically include animation sequences that allow a user's browser to respond to a user input (like a click or just directing a pointing device over a particular area) without making a request to the hosting server. In the Hyundai USA website, the Flash files that I have encountered have all included links to other URLs. Accordingly, in each case, the user's answers to the specific questions posed by the available options on the webpage were sent back to an Akamai server

[13] This article provides an excellent overview of what Akamai does for content providers, including the statement on its page 55 that "Akamai's network distributes and serves content for providers, who must retain control over their content as we serve it at the edge, and see real-time information about what content is served to whom and when."

which received the answer from the user interface. For example, the menu bar on the main *www.hyundaiusa.com* webpage is implemented in Flash. That Flash code allows the user to select a vehicle from a plurality of choices in a multi-level menu.

80. When the user directs the pointing device over a menu option, the next level of options related to that menu option appears. For example, the top-level menu options of the www.hyundaiusa.com website include VEHICLES, RESEARCH TOOLS, FINANCIAL TOOLS, and ASSURANCE. If a user points to the vehicle option, a second-level menu appears with the options including SEE ALL, COMPACTS, FAMILY SEDANS, CROSSOVERS, and PREMIUM/PERFORMANCE. If the user points to the FAMILY SEDANS option, a third level of options appears including specific vehicle models – SONATA and AZERA. None of these user answers to the implied questions require a request to the host server because the Flash file handles it within the same webpage. However, if the user clicks on any other options, and in any event, when the user clicks on a particular model at the third-level menu, the Flash code completes, identifying the new URL, and sends a request to the Akamai server. Accordingly, the Akamai server receives answers to a plurality of questions from a specific customer related to at least one of a desired feature and desired use by the customer of a tangible product for sale from a user interface when a user clicks on any option, or sequence of options at *www.hyundaiusa.com* webpage to arrive at a vehicle landing page.

81. Another example is seen on the *www.hyundaiusa.com/thinkaboutit/* webpages. The initial *www.hyundaiusa.com/thinkaboutit/* webpage has a large Flash file that includes links to at least fifteen other webpages (*e.g.*, "Unibody," "100,000-mile Test-Drive," *etc.*), which fit into five non-exclusive categories (SAFETY, DESIGN, QUALITY, INTERACTIVE, and PRINT). The Flash code allows the user to re-configure the screen to show only the webpages related to a specific category and to select a desired webpage. Reconfiguring the screen to show only a desired category is handled by the downloaded Flash file, and no request to a server is needed for that function. However, when the user clicks on a desired webpage a request is sent to the Akamai server to download the required file or files. For example, when a user clicks on the "100,000-mile Test-Drive," the Flash animation for the *www.hyundaiusa.com/thinkaboutit/* webpage completes, the URL is updated to the linked webpage (*www.hyundaiusa.com/thinkaboutit/#/1000000milesin10months*), the request is received by the Akamai server, and the Flash corresponding to that URL is sent back. Accordingly, the

www.hyundaiusa.com system receives answers to a plurality of questions from a specific customer related to at least one of a desired feature and desired use by the customer of a tangible product for sale from a user interface when a user navigates from the *www.hyundaiusa.com/thinkaboutit/* webpage to the linked *www.hyundaiusa.com/thinkaboutit/#/1000000milesin10months* webpage. In that case the plurality of answers for this sequence would be:

- *Do you want to see information about Hyundai quality regarding the 100000 mile testing YES or NO*
- *Do you want to see information about the unibody? YES or NO*

82. Other portions of the *www.hyundaiusa.com* website include a plurality of questions related to a product feature desired by the customer, for example the Build Your Own pages, which I discuss in more detail below in ¶¶ 108 and 109. Regarding those portions, the HMA system also receives answers to a plurality of questions from a specific customer related to at least one of a desired feature and desired use by the customer of a tangible product for sale from a user interface.

83. As explained above, when the selections made by a customer in answering the questions posed to them by the *www.hyundaiusa.com* website are received by a server which is executing the software of that website, that reception literally meets the limitations of Step 1a.

6.2.3 Step 1b

automatically select, in response to at least one of the received answers, an image of the tangible product for sale, an image of an environment in which the product for sale is to be used and a text segment comprised of a description of the product specifications and performances that are of particular interest to the customer; and

6.2.3.1 Claim Constructions

84. The Court has not provided a construction for any of the terms of Step 1b. As a result, I have used the customary meanings for those terms. I note, however, that in the First Opinion the Court ruled that no construction was necessary for a similarly worded limitation "automatically

selecting, in response to at least one of the customer answers, a product image, a product environment image and a text segment."

6.2.3.2 Infringement by HMA

85. When the currently operative server for the *www.hyundaiusa.com* website receives the answers to questions posed by the user interfaces of that website, that server automatically selects, in response to at least one of those received answers – such as ""YES" to "*Would you like learn more about the Azera Family Sedan*?" as illustrated above – an image of the selected vehicle, an image of an environment in which the selected vehicle is to be used, and a text segment comprised of a description of the product specifications and performances that the vehicle the customer has selected.

86. As an example of the selection of those images and text, *see* the portion of the proposal depicted in the screenshot of ¶ 51 above. The HTML source which defines that imagery and text automatically selects an image of the Azera Family Sedan (*see* the top image), an image of an environment in which the Azera is to be used (both the video of the Azera on the bridge and the image of an Azera on a street in front of a building).

87. In addition, several text segments are shown in that proposal. Those text segments include: (a) a description of the product specifications for the Azera (*see*, for example, the text segment "The Hyundai Azera is equipped with a long list of active and passive safety features, including eight standard airbags[], a high-tensile steel unibody, active front head restraints, Electronic Stability Control, a Traction Control System[], and an intelligent braking system. Also standard: peace of mind" and "Seats 5," and (b) a description of Azera's performance (*see*, for example, the text segment "Some might say performance doesn't matter in a luxury car. If that were the case, luxury cars would be nothing more than economy cars with added equipment. At Hyundai, we think of performance as another form of luxury, but we also believe performance is more complex than the sum of a car's test data. Instead, we judge a car by asking one very important question: How well does it measure up to expectations? Hyundai engineers tried to go one step further, by engineering the Azera's performance to exceed expectations with responsive power, confident maneuvering and low noise levels." and "20/28 MPG."

88. The "automatically select" operation required by Step 1b is performed when the server of the *www.hyundaiusa.com* website uses the received customer answers to identify and transmit over the Internet the HTML source defining a new screen image such as that shown in the two-part screenshot of ¶ 51. Using that screenshot as an example, the following snippet of the HTML source for that screen image causes the second image of the Azera shown therein (a JPEG picture file) to be selected for inclusion in the image defined by the overall HTML source. The path to that image is identified in the HTML source for that screen image as `/images/HYINDAIUSA/Vehicles/Azera/2011/QUIET-CONFIDENCE.jpg` as shown in the portion of that HTML copied below:[14]

```
                        <div class="general_content">
                              <div    class="content_image    has_shadow"><img
src='/images/HyundaiUSA/Vehicles/Azera/2011/QUIET-CONFIDENCE.jpg'       alt=''
width='655' height='261' /></div>

                        </div>
```

89. Similarly, the following snippet of the HTML source for that portion of the proposal causes the image of the Azera Family Sedan on a street in front of a building as shown in the upper screenshot of ¶ 51 (another JPEG file) to be selected by the server of the *www.hyundaiusa.com* website for inclusion in the screen image defined by that HTML source:

```
                       <div class="general_content">
                             <div class="content_image has_shadow"><img
src='/images/vehicle/hero/2011/azera.jpg' alt='2011 Azera' width='720'
height='316' /></div>

                       </div>
```

90. In addition, the following snippet of the HTML source for the screenshot of ¶ 51 causes the text dealing with the performance of the Azera Family Sedan that I quoted in ¶ 87 above –

[14] The HTML source cited in this expert report is generally provided in ASP.NET form by the *www.hyundaiusa.com* website, meaning that the files which store that source have a *,aspx extension. That type of file allows the server of that website to process the ASP.NET file prior to sending it out to the browser of the customer that is using that website. As explained at www.w3schools.com/aspnet/aspnet_intro.asp, ASP.NET is a server side scripting technology that enables scripts (embedded in web pages) to be executed by an Internet server. ASP.NET is a Microsoft Technology, where "ASP" stands for Active Server Pages. ASP.NET is a program that runs inside an IIS-based server. "IIS" (Internet Information Services) is Microsoft's Internet server software, which comes as a free component with Windows servers. Basically, an ASP.NET file is just the same as an HTML file, but an ASP.NET file can contain HTML and scripts which are executed on the server before the resulting HTML is returned to the client browser. When that browser requests an HTML file, the server returns that file as it stored, but when a browser requests an ASP.NET file, the IIS server software first passes the request to the ASP.NET engine on the server where the ASP.NET engine reads the file, line by line, and executes the scripts in the file. In doing so, the IIS generates the HTML code from the ASP.NET file and returns the HTML code to the browser. *See* Ton at pages 49:22-52:3.

along with the selectable link presenting the "*Do you want to learn more about the performance of the Azera Family Sedan?*" question – to be included in the image defined by the overall HTML source:

```
<div class="general_content">
                              <div class="content_copy">
                                    <h2 >QUIET CONFIDENCE.</h2>
                                    <p>Some might say performance doesn't
matter in a luxury car. If that were the case, luxury cars would be nothing
more than economy cars with added equipment. At Hyundai, we think of
performance as another form of luxury, but we also believe performance is
more complex than the sum of a car's test data. Instead, we judge a car by
asking one very important question: How well does it measure up to
expectations? Hyundai engineers tried to go one step further, by engineering
the Azera's performance to exceed expectations with responsive power,
confident maneuvering and low noise levels.</p>
<a   href="/azera/performance.aspx"   class="content_button">More   about   The
Performance</a>
                              </div>
                        </div>
```

91. The automatic selection of the images and text snippets by the server of the *www.hyundaiusa.com* website, as well as the others included in the HTML source of the screenshot shown in ¶ 51 above, literally meets the limitations of Step 1b. As explained above, in selecting that specific HTML source code, that server selects: (a) an image of the tangible product for sale, (b) an image of an environment in which the product for sale is to be used, and (c) a text segment comprised of a description of the product specifications and performances for display to a customer who has a particular interest in the Azera Family Sedan.

6.2.4 Step 1c

> *integrate the selected images and the selected text segment into a proposal for the sale of the product customized to the specific customer such that a single composite visual output can be generated that shows the product in the product environment along with said text segment,*

6.2.4.1 Claim Constructions

92. The First Opinion construed "proposal" as "information intended for conveyance to a potential customer." The Second Opinion construed the term "single composite visual output" as "a single image that includes the selected text and an image of a product in a product environment." For all other terms of Step 1c I have used their customary meanings.

6.2.5 Infringement by HMA

93. The integration of images and text selected by the server of the *www.hyundaiusa.com* website form a portion of a proposal that includes a single image with the selected text and an image of a product in a product environment as required by Step 1c is demonstrated in the screenshot shown in ¶ 51 above. That composite visual image is clearly information intended for conveyance to a customer who, through their answers to the questions posed to them by the *www.hyundaiusa.com* website, has expressed an interest in the Azera Family Sedan as a potential customer for purchase of that HMA vehicle.

94. As I explained in discussing Step 1b above, the HTML source code that defines the screenshot of ¶ 51 integrates those images and text so as to define a single image that includes the selected text and an image of a product in a product environment, thereby meeting literally the limitations of Step 1c.

95. HMA's own witnesses have confirmed that the Hyundai USA website generates a "single composite visual output." For example, HMA's corporate designee, Mr. McLeod, testified at 152:16-20 regarding the Hyundai Accent vehicle landing page as follows:

> Q Sure. Does this single Web page include both text describing the performance and features of the Hyundai Accent product as well as an image of the product in an environment?
>
> A It contains those components, yes.

Also see McLeod at 154:16-20. regarding the Hyundai Genesis vehicle landing page:

> Q So this single Web page includes both text relating to the specifications and performance of the Hyundai Genesis as well as pictures of the product in an environment. Is that right?
>
> A Yes.

Also see McLeod at 156:16-157:22 regarding the Santa Fe vehicle landing page, including:

> Q Okay. So this single Web page includes an image of the Hyundai Santa Fe product, an image of the Hyundai Santa Fe product in an environment and text relating to the specifications and performance of the Hyundai Santa Fe. Correct?
>
> A Yes.

Also see McLeod at 153:11-13 where he testified that HMA is advertising its products for sale on its website:

> Q Is HMA advertising its products for sale with the Hyundai USA website?
>
> A Yes.

Also see McLeod at 118, 124-26, 150-51, 152, 153-54, 157, and 164-65.

96. On some Hyundai USA webpages, pictures of the Hyundai product and environment are shown in the form of video or Flash. Video is essentially a sequence of still pictures that have only small changes from picture to picture and are shown in fast enough succession that the human eye sees those pictures as motion. A video or Flash that includes a frame with a selected product and environment on a webpage with selected text comprised of a description of the product specifications and performance also literally meets the requirements of this limitation. For example, the Flash on the *www.hyundaigenesis.com* website of the Hyundai Genesis doing "donuts" and including text regarding the Genesis' specifications and performance meets this limitation. As another example, the Flash for the "100,000-mile Test-Drive" at *www.hyundaiusa.com/thinkaboutit/#/100000milesin10months* depicts the Santa Fe product in several different environments, *e.g.*, an industrial setting at night, a desert, a beach, a green field, and a winter setting, as well as providing text regarding the performance and specifications of Hyundai products, meets this limitation.

97. In addition, to the extent that this claim language literally requires that the computer system integrate the selected product image, environment and text on a single webpage, an attempt to design-around this claim of the '739 patent by moving one of the product image, environment and text to another page connected by a hyperlink would still be infringing under the doctrine of equivalents. In my opinion using a hyperlink to put one of the product image, environment or text on a separate webpage is an insubstantial difference. In a printed form, the proposal can be multiple pages. When a multi-page proposal has an edge binding, two adjacent pages can form a single composite visual image. Two webpages hyperlinked together are substantially the same. The function is identical – both integrate the selected images and selected text segment into a proposal for the sale of the product customized to the specific customer such that a single composite customized visual output showing the product in the product environment along with said text segment. The two visual outputs perform the function in substantially the same way. In either case, the computer system integrates the images and text by linking them directly in adjacent webpages such that the customer can access it as part of single proposal. Indeed, if each page of the proposal were printed, the two linked pages containing the product image, environment and text can be arranged side-by-side to form the same type of single composite visual image as two adjacent pages in a printed proposal. It is an insubstantial difference if an image or text is directly hyperlinked. Finally, the result is the same

– in both cases, a selected product image, selected environment and selected text segment are integrated into a proposal for the sale of the product customized to the specific customer.

6.2.6 The Wherein Clause

> *wherein the single composite visual output is generated by: a selection device operatively interconnected to an active database, the active database configured to electronically store customer information obtained via the user interface; the selection device operatively connected to a static database, the static database storing electronically at least one of, (a) text; (b) pictures or (c) texts and pictures, relating to at least one product; and the system dynamically building a template utilizing the selection device to fill in the template to produce the single composite visual output.*

6.2.6.1 Claim Construction

98. The Second Opinion construed the term "database" as "a collection of logically related data stored together in one or more computerized files." The Second Opinion construed the term "static database" as "a database that is not alterable during generation of a composite visual output." The Second Opinion construed the term "active database" as "a database that is alterable based on user input." The Second Opinion construed the term "selection device" as "computer code data structure." Regarding this construction, the Court explained "In object oriented programming, data structures (datafields and methods), referred to as 'objects,' establish the behavior of the system. An object diagram, such as that including 'selection device 101,' describe the interaction of the objects (software elements). See generally, '739 patent at 4:27-52. The specification supports an understanding that 'selection device' is a computer code data structure, which is preferably an object oriented programming data structure known as an 'object.'"

99. The Second Opinion also construed the phrase "dynamically building a template" as "constructing a template that may be modified to fit selected images and text." Also, as I noted above for Step 1c, the Second Opinion also construed the term "single composite visual output" as "a single image that includes the selected text and an image of a product in a product environment." For all other terms of the Wherein Clause I have used their customary meanings.

6.2.6.2 Infringement by HMA

100. In my opinion the "selection device" of the Wherein Clause of claim 1 is the web server .net code running on the Partners Consulting web servers and the web server software (Microsoft IIS on the Partners Consulting web servers) running on each of the servers used by the HMA system. The web server .net code and the IIS web server software comprise a computer code data structure. The web server .net code is computer code that includes datafields and methods or objects. *See* Ton at 68:10-11 ("Does the web service .net code include objects? A Yes.").

101. In fact, Mr. Ton specifically identified four objects in the web server .net code: the Dealer object, the Vehicle object, the Model object, and the Special Offer object. See Ton at 69:1-4. Mr. Ton also identified fields in these objects. For example, he testified that the vehicle object had "a lot of fields," including Vehicle ID, Trim ID, Vehicle Name, and MSRP. *See* Ton at 70:8-12. Mr. Ton also confirmed that the web server .net code included methods. *See* Ton at page 75:19-21 ("Q Okay. But it's correct to say that the web service .net code includes methods? A Yes."). *Also see* Ton at pages 76-78.

102. Similarly, the web server operating system, for example, IIS, is computer code that includes datafields and methods. For example, IIS7 includes computer code that performs a sequence of methods, one of which is expressly referred to as the "authentication method." See the diagram describing the overall architecture of the web server core at *learn.iis.net/page.aspx/101/introduction-to-iis-7-architecture/*. That IIS7 overview further states that: "IIS 7 contains several components that perform important functions for the application and Web server roles in Windows Server® 2008 (IIS 7.0) and Windows Server 2008 R2 (IIS 7.5). Each component has responsibilities, such as listening for requests made to the server, managing processes, and reading configuration files." For example, configuration data for the web server is stored in the *applicationHost.config xml* file and "The WWW Service uses the configuration information to configure HTTP.sys."

103. That configuration information includes datafields in *applicationHost.config* and HTTP.sys, and its methods implement the configuration settings. As another example of datafields and methods in IIS7 is the Web Server Core API, which includes "integrated request – processing pipeline classes, constants, enumerations, functions, interfaces, and structures. *See msdn.microsoft.com/en-us/library/ms692081(v=VS.90).aspx*. *Also see*

learn.iis.net/page.aspx/169/develop-a-native-cc-module-for-iis-7/ which describes inheriting from the base classes described in the Web Server Core API to create a Native Module that hooks into the Web Server Core. For example, the IHttpRequest and IHttpResponse Interfaces include datafields and methods that allow retrieving and modifying data in the current http request and response. *See msdn.microsoft.com/en-us/library/ms694263(v=VS.90).aspx* (IHttpRequest) and *msdn.microsoft.com/en-us/library/ms692576(v=VS.90).aspx* (IHttpResponse). The handlers for each state in the request-processing pipeline, such as the OnExecuteRequest Handler also include datafields and methods. *See msdn.microsoft.com/en-us/library/ms693685(v=VS.90).aspx* and *blogs.msdn.com/b/tmarq/archive/2007/08/30/iis-7-0-asp-net-pipelines-modules-handlers-and-preconditions.aspx.*

104. As it receives the answers to questions posed to the customer accessing the *www.hyundaiusa.com* website, its server software selects the appropriate ASPX file for the URL that the user is visiting, uses that ASPX file to generate HTML code for the webpage, and transmits the generated HTML source code back to the customer. I have specifically identified many of those files on the system installed at Potter Minton in Tyler on February 5, 2010.

105. The "active database" of the *www.hyundaiusa.com* website is located on the Partners Consulting SQL servers. *See* McLeod deposition at pages 85:23-25 and 100:20-22. HMA's corporate designees called this the "Hyundai USA database" and testified that the website functions of Request A Quote, Request A Test Drive, and Build Your Own-Request A Quote all could generate records in the Hyundai USA database. *See* the Ton deposition at pages 30:3-7 ("Q So if a user enters all the information necessary for the Request A Quote process and presses the Submit button, that will lead to a record being generated in the Hyundai USA database? A That's correct."), 30:22-31:1 and 31:21-32:5, and the McLeod deposition at pages 86:5-8, 85:17-20, 89:19-22, 91:3-14, 91:24-92:1, and 100:20-101:1.

106. The Hyundai USA database is a collection of logically related data stored together in one or more computerized files within a SQL database. That SQL database is alterable based on user input. In addition, based on my investigation it is clear that the server software is operatively connected to an active database that holds information entered by the customer. See Ton at pages 95:9-12 ("Q Okay. Is it accurate to say that the Web server .NET code uses an ODBC connection to access information in the Hyundai USA database? A Yes."). Also, the Hyundai

USA active database configured to electronically store customer information obtained via the user interface. *See* Ton at page 119:9-13 ("Q Okay. So is the Hyundai USA database configured to electronically store user information obtained from the user when the user presses the Submit button on the Request A Quote website? A Yes.").

107. I also worked through the www.hyundaiusa.com server code to confirm that the information identifying a potential customer (a "lead") is passed through by that software from the server's Presentation Layer to its Business Logic Layer, and finally to its Data Access Layer where it is committed to the active SQL database via the execution of a "submit" instruction.

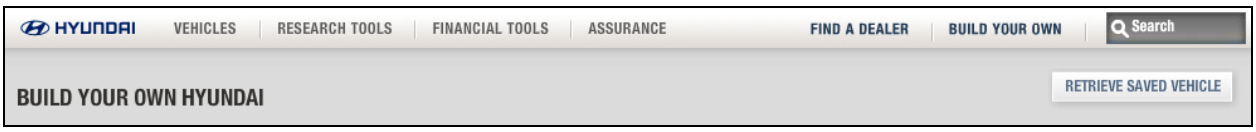
108. Evidence of the fact that the servers of the *www.hyundaiusa.com* website are operatively connected to an organized collection of data that is alterable based on user input was provided during the McLeod deposition. *See* 84:10-86:12 of the rough transcript:

Page 84
01:33 10 Q Sure. Okay. So let's start with request a
01:33 11 quote. When the user clicks on request a quote, I think
01:33 12 there is a pop up window, and there are a number of
01:33 13 fields that need to be filled in by the user?
01:33 14 A Uh-huh.
01:33 15 THE REPORTER: Is that "yes"?
01:33 16 THE WITNESS: Sorry. Yes.
01:33 17 MR. GIZA: Thank you.
01:33 18 Q So when the user enters that information and
01:33 19 presses continue or whatever is necessary, where does
01:34 20 that information go, the user entered information?
01:34 21 A So it's going to go into the Hyundai USA
01:34 22 database.
01:34 23 Q Okay. And where is the Hyundai USA database?
01:34 24 A That's stored -- that's on the SQL database.
01:34 25 That's stored at partners.
Page 85
01:34 1 Q That's one of the two SQL servers at partners?
01:34 2 A Right. Now, those SQL servers are clustered, so
01:34 3 really it's one SQL server and the other one is basically
01:34 4 a backup.
01:34 5 Q Ah, got it. Okay. And when the user provides
01:34 6 information through request a quote, it then is stored in
01:35 7 the Hyundai USA database?
01:35 8 A Right.
01:35 9 Q What about with find a dealer?
01:35 10 A So find a dealer, that's basically you're going
01:35 11 to submit your ZIP code and try to locate a dealer that's

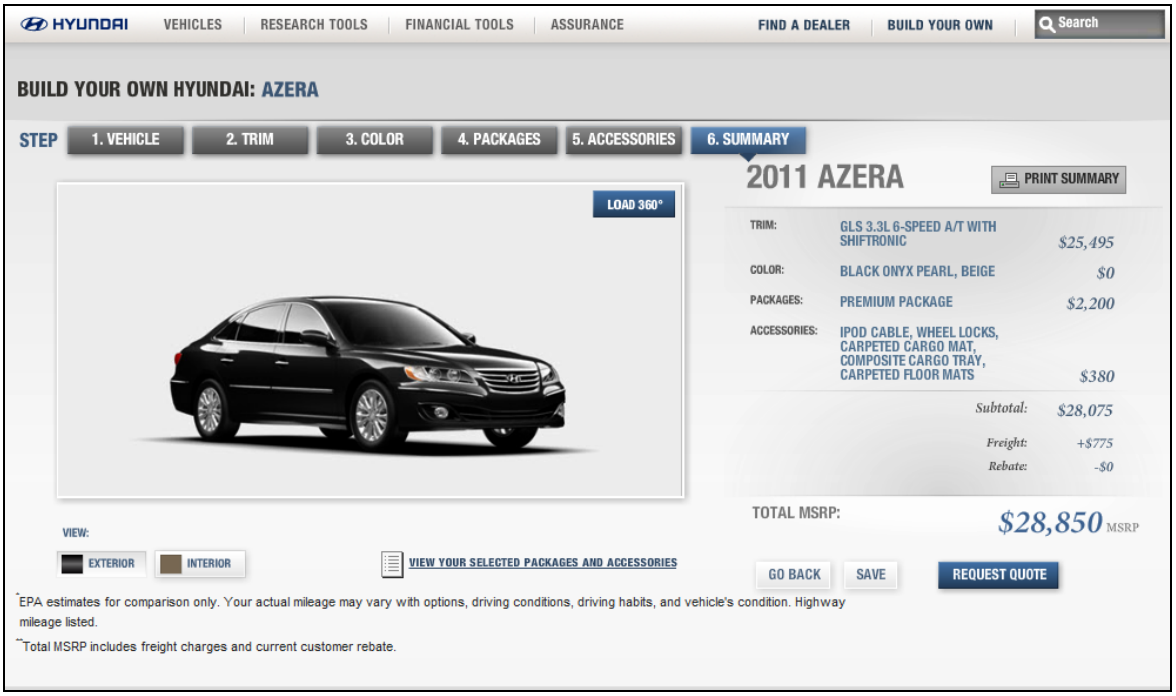
01:35 12 close to that, and it will give you a list of dealers
01:35 13 that are close to that ZIP code.
01:35 14 Q Okay. Is there any user information that is
01:35 15 stored in the Hyundai USA database?
01:35 16 A For find a dealer, no.
01:36 17 Q How about schedule a test drive? Is any user
01:36 18 information from schedule a test drive stored in the
01:36 19 Hyundai USA database?
01:36 20 A Yes.
01:36 21 Q And what information is stored?
01:36 22 A Trying to remember the fields that are in there.
01:36 23 I believe it's first and last name, it's either -- it's
01:36 24 an either and phone number, e-mail address, and I believe
01:36 25 the -- that also has their physical address.
Page 86
01:37 1 Q Any other information?
01:37 2 A Schedule test drive is also going to store
01:37 3 information about the vehicle of interest for the
01:37 4 consumer.
01:37 5 Q You have said earlier that request a quote
01:37 6 stores user information. What information does request a
01:37 7 quote store?
01:37 8 A Again, it's similar. First name, last name,
01:37 9 it's an either/or there where it's a telephone or e-mail
01:37 10 address. Quite frankly, I can't remember if we have the
01:37 11 physical address in there as well, postal address. In
01:38 12 request a quote, we'll also need the vehicle information.

Also see, as other examples, McLeod at 90:11-91:22.

109. To verify the McLeod testimony I used the "BUILD YOUR OWN" feature of the *www.hyundaiusa.com* website to define an Azera with specific features. After doing that I executed the "SAVE YOUR VEHICLE" option. I then closed the website and reopened it to activate the BYO feature again. I was presented with the following image which included a link asking the question "*Would you like to retrieve your saved vehicle?"*



I clicked on that link to provide a "YES" answer and, after re-entering my email address I was provided with the following image. That image corresponds to the Azera as it was configured when I saved it.[15]



Clearly, the storage of my vehicle characteristics in an SQL database that is accessible by the server software of the *www.hyundaiusa.com* website is an example of being operatively connected to a database that is alterable based on customer input as required by the Whereas Clause of claim 1.

110. The "static database" of the *www.hyundaiusa.com* website is located at the web servers that store the pictures, video, flash and XML files that are used in the Hyundai USA website. Those files are stored in a specified directory structure so that the various webpages can refer consistently to appropriate files and so that the web server operating systems can locate the files. This directory structure on the web servers therefore provides a collection of logically related data stored together in one or more computerized files. Furthermore, this "static database" of *.jpg, *.swf and *.xml files is a database that is not alterable during generation of a composite

[15] For the record, it is my understanding is that the BYO information is stored to the SQL database only if you also complete and submit the RAQ information following the BYO process. If you do not complete RAQ, I think the BYO information is only stored in a session cookie. That understanding does not affect my opinions of infringement by HMA.

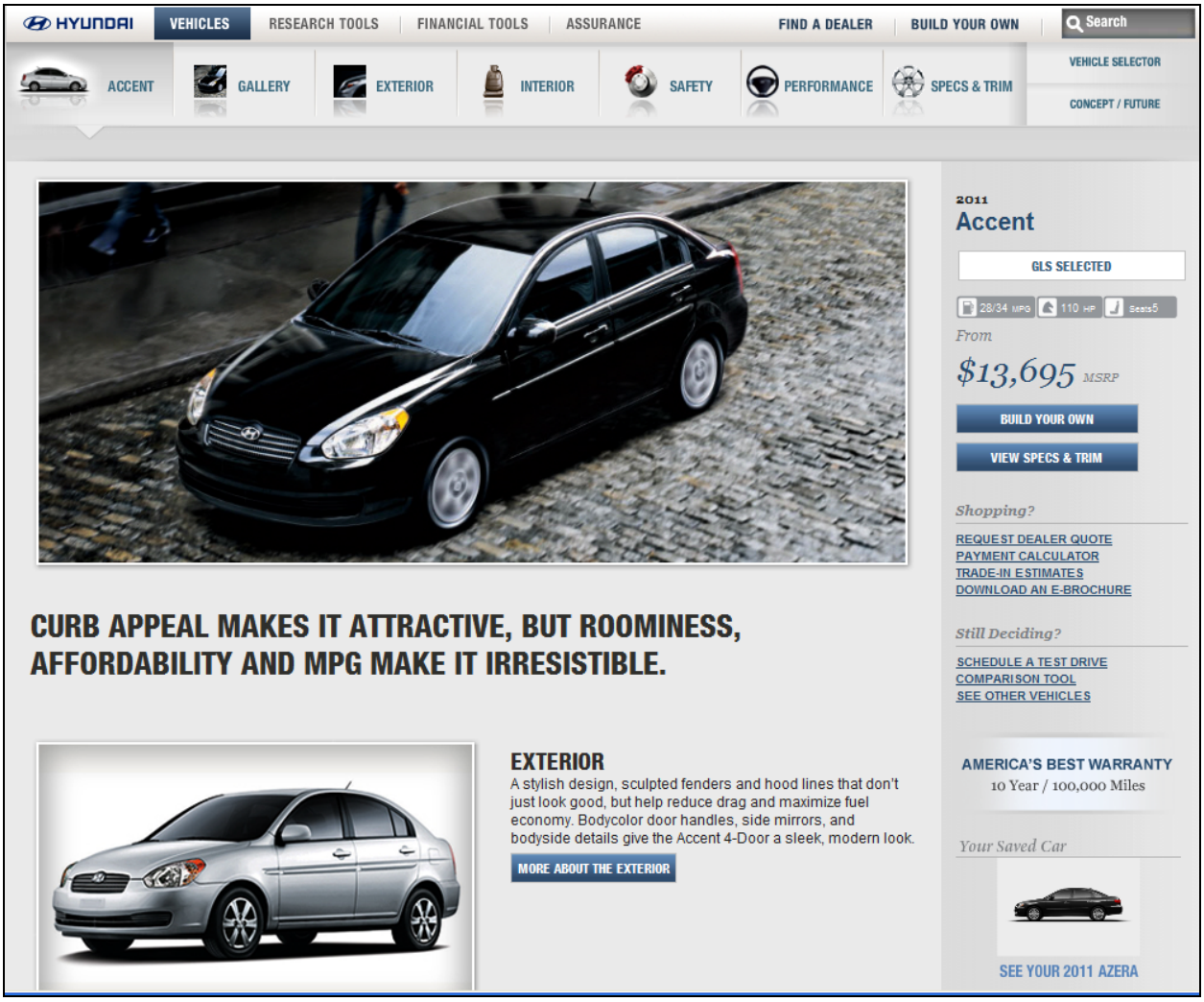
visual output. *See* McLeod at 175:9-17. Also, the Hyundai directory structure is a static database storing electronically at least one of, (a) text; (b) pictures or (c) texts and pictures, relating to at least one product. *Also see* Ton at 119:16-23 and 120:2-120:7 ("Does the images folder in the directory structure on the Web server hard disk drive electronically store pictures of Hyundai products that will be stored on the -- that will be displayed on the Hyundai website? A Yes."). I identified and inspected some of those data files during my inspection in Tyler.

111. The static database of the *www.hyundaiusa.com* system has a directory structure that stored logically related data in multiple computerized files. That static database has separate directories for Images, Flash, and XML files. The basic directory structure for the Images subdirectory in the root directory was described by Mr. Ton. Within the images directory there is a subdirectory "Vehicles," for example. Within that, there are "Models" subdirectories for each HMA model. Within these subdirectories, there is a "Year" subdirectory. Within that, there are typically some default pictures of the specific HMA model and three subdirectories: Interior, Exterior and Build Your Own. These subdirectories include pictures of the interior, exterior and angle shots for the 360° view of that HMA model. The *.swf and XML directories have similar structure. *See* the Ton deposition at pages 88-91. These directory structures and the included picture, shockwave and XML files are a collection of logically related data stored together in one or more computerized files.

112. The *www.hyundaiusa.com* selection device, including the IIS code and the web server .net code, is operatively connected to the static database. The directories and files of the static database are stored on a hard disk drive connected to the web servers at Partners Consulting as identified above. See the Ton deposition at pages 98-99.

113. As for the last part of the Wherein Clause, the term "dynamically building a template," my investigation of the HTML source supplied by the servers of the *www.hyundaiusa.com* website has shown that those servers perform that operation. As explained above, when a user answers the questions posed to him or her by that website, the nature of the selected ASPX and related HTML files varies based on the user's answers to those questions. For example, in ¶ 51 above I showed a screen shot that resulted from a user's expression of interest in an Azera

Family Sedan. A portion of a similar screenshot that is defined by a different HTML source file for a customer who is interested in an Accent is shown below:[16]



114. Comparing the HTML source files for the two different screen images resulting from customers expressing interest in two different HMA vehicles (an Azera versus an Accent) shows that much of the HTML used to define those proposals is identical, with the variations in the HTML generally relating to the specific pictures and text that has been defined based on the information that HMA wants to supply for the specific vehicle they each correspond to. I have used textual comparisons of those two sets of HTML source to show their differences. A snippet of such a comparison is shown below, taken from a comparison of the HTML source for each:

[16] Note the "Your Saved Car" text and picture on the lower right of the screen. That also confirms that the *www.hyundaiusa.com* website has an active database.

```
<title>Hyundai Azera: More Horsepower than BMW 5/More Interior
than BMW 7 Series | Hyundai</title>
<meta name="keywords" content="bmw 5 series, bmw 7 series,
hyundai azera, azera" />
<meta name="description" content="The Hyundai Azera combines
comfort and convenience with safety and value. Azera offers more
horsepower than the BMW 528i and can offer more interior space
than the BMW 7 while being complemented by the most standard
safety technologies in its class." ."Accent offers advanced
safety technologies, up to 35 MPG and more interior volume than
the Toyota Corolla and Honda Civic. Discover the most affordable
car in the U.S., and the J.D. Powers most dependable sub-
compact." />
```

115. An example of how the HTML source for the two vehicles varies in order to identify the inclusion of two different pictures is shown below:

```
                        <div class="general_content">

                        <div class="general_content">
                              <div            class="content_image
has_shadow"><img
src='/images/vehicle/heroHyundaiUSA/Vehicles/Azera/2011/accentQUI
ET CONFIDENCE.jpg'     alt='2011     Accent'''     width='720''655'
height='316''261' /></div>

                        </div>
```

116. As the above comparisons show, the HTML for both the Azera and the Accent includes regions which set up the vehicle-specific text and images corresponding to the selected vehicle. That common HTML forms a template which may be modified to fit selected images and text. In fact, HMA or an HTML programmer working for HMA has done just that.

117. My analysis is further confirmed by testimony from HMA's corporate designees on technical issues. As discussed above, the Partners Consulting web servers in conjunction with Akamai servers host the Hyundai USA website. ASPX and HTML files are not cached in the Akamai servers. In fact, according to Mr. Ton, the HTML code is not stored on the Partners Consulting servers either. Instead, Hyundai uses ASPX files, which the web server .net code and the IIS7 code on the Partners Consulting web servers locates and uses to generate the HTML for a requested URL. *See* Ton at 34-35, 38, 43, and 50-51. Also as explained above, the HTML code is a template for the layout of the content (pictures, video, text, etc.) of the website. In the Hyundai system, the HTML code for each requested URL is generated dynamically – each time a user requests a new web page. Mr. Ton confirmed this at 51:18-52:3:

Q Okay? So every time the user requests a particular Web page at Hyundai USA, it ends up going to the Partners Consulting Web server, and the Partners Consulting Web server generates HTML from the ASPX code. Right?

…

THE WITNESS: Yeah.

BY MR. GIZA:

Q Okay. And that's for every Web page?

…

THE WITNESS: Yes, every Web page.

118. When in Tyler I also inspected the ASPX definitions of a number of landing pages from the www.hyundaiusa.com website. Those definitions, themselves, also used a template-based approach to generating the HTML corresponding to each of those pages. For example those ASPX files (for the Azera product, the ASPX files include azera_2010_exterior.aspx (HMA_SC00162-168), azera_2010_index.aspx (HMA_SC00169-176), azera_2010_interior.aspx (HMA_SC00177-183), azera_2010_performance.aspx (HMA_SC00184-191), and azera_2010_safety.aspx (HMA_SC00192-199)) identified a main file (wrapper.master, including wrapper.master.cs) that included aspects of the general webpage layout including the header and footer, along with placeholders for page/product specific information. The web server .net code and the IIS code use the wrapper.master file to generate the general webpage layout, and the ASPX files to fill in the page/product specific content in the wrapper.master placeholders. This webpage layout is converted into HTML code, which is sent back to the customer. The HTML code specifies the webpage being returned to the customer given the customer's answers to the questions posed to them by the *www.hyundaiusa.com* website.

119. After the HTML is sent to the user, the HTML creates the image to be displayed by further requests to the Akamai web server for the linked picture, video, flash, *etc.*, files. The software of the Akamai web server, which is part of the "selection device," responds with the requested files to fill in the HTML template. Accordingly, the *www.hyundaiusa.com* system dynamically builds a template utilizing the selection device to fill in the template to produce the single composite visual output.

120. The fact that HMA contracts with HISNA, and HISNA contracts with Partners Consulting and Akamai to provide the Hyundai USA website does not mean that HMA does not direct and control the provision of Hyundai USA website. As I explained above in ¶¶ 54-57, HISNA provides direction and control, both by its contractual arrangements and through its

employees, of the technical aspects of claim 1 that are performed by Partners Consulting and Akamai servers. Further, since HMA marketing has the final approval of any changes to the Hyundai USA website, it provides direction and control of the process at that level.

121. As explained above, the *www.hyundaiusa.com* website literally meets the limitations of the Wherein Clause of claim 1.

6.2.7 Summary Opinion of Infringement

122. As shown above, the *www.hyundaiusa.com* website meets all of the limitations of each step of claim 1 as well as meeting the limitations of that claim's Whereas Clause. That website therefore literally infringes claim 1.

6.3 Dependent Claim 2

> *2. The computer program product of claim 1 further comprising instructions to cause the processor to output the single composite visual output to a user as a customized proposal for the sale of the product.*

6.3.1 Infringement by HMA

123. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 1 above. In addition, the screen image of ¶ 51 shows that the programming that defines the server software of that website includes instructions which, in response to the answers provided by a user of that website, cause the processors of those servers to output to that user a set of HTML source which defines a single composite screen image in the form of a customized proposal for the sale of the selected vehicle. *See* my discussion of the Preamble of claim 1, as well. As a result, the *www.hyundaiusa.com* website meets the limitations added to claim 1 by claim 2, thereby literally infringing claim 2.

6.4 Dependent Claim 3

> *3. The computer program product of claim 2 further comprising instructions to cause the processor to display the customized proposal for the sale of the product on a computer monitor for viewing by the user.*

6.4.1 Infringement by HMA

124. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claims 1 and 2 above. In addition, the screen images of ¶¶ 51 and 110 show that the programming that defines the server software of that website includes instructions which, in response to the answers provided by a user of that website, cause the processors of those servers to output to that user a set of HTML source which defines a customized proposal for the sale of the selected vehicle. That HTML source, in conjunction with the Akamai web servers providing the linked pictures, flash, video, etc. as the HTML is rendered by the browser at the user's computer, includes instructions that result in the display of that proposal on the user's computer monitor. As a result, the *www.hyundaiusa.com* website meets the limitations added to claims 1 and 2 by claim 3, thereby literally infringing claim 3.

6.5 Dependent Claim 7

> *The computer program product of claim 1 further comprising instructions to cause the processor to link for inclusion in the customized proposal for the sale of the product at least one of the received answers with one of a plurality of product specifications stored in the computer system, wherein the plurality of product specifications relate to producing the products in a variety of configurations.*

6.5.1 Infringement by HMA

125. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 1 above. In addition, the screen images of ¶¶ 51 and 110 show that the programming that defines the server software of the *www.hyundaiusa.com* website includes instructions which cause the processor to link for inclusion in the customized proposal for the sale of the product at least one of the received answers with one of a plurality of product specifications stored in the computer system, wherein the plurality of product specifications relate to producing the products in a variety of configurations. For example, if a user answers "YES" to the question "*Would you like to learn more about the performance of the Azera?"* as posed by the HTML defining the screenshot of ¶ 51, the programming of the *www.hyundaiusa.com* website's servers will select and output new HTML source which includes the following text segment:

Drive the Azera and you'll notice the sensation of having deep reserves of power—its V6 engine includes technologies like Continuously Variable Valve Timing and a Variable Intake System, and is generously sized to produce strong torque at low engine speeds. Details like iridium-tipped spark plugs and a high 10.4:1 compression ratio further enhance the engine's sensitivity to your every request.

Adding to this responsiveness is a six-speed automatic transmission that is adept at choosing the right gear at the right time. If you want to make those decisions yourself, just move the gear selector over to the SHIFTRONIC® gate for added control.

126. The text segment copied above discusses the Azera's V6 engine with its Continuously Variable Valve Timing and a Variable Intake System, its use of iridium-tipped spark plugs, its 10.4:1 compression ratio, and its SHIFTRONIC® gear selection, all of which are specifications pertinent to an available Azera configuration. Further, the HTML defining the "performance" screen image also allows the user of the *www.hyundaiusa.com* website to select either of two configurations for the Azera – the Azera GLS or the Azera Limited. Depending on the user's answer to the question "*Are you interested in the GLS or the Limited?"* the HTML source provides one of two small text areas as shown below:

These two options provided by the HTML source describe the MPG and horsepower specification for those two Azera configurations.

127. By supplying text segments such as those copied above, the *www.hyundaiusa.com* website meets the limitations added to claim 1 by claim 7, thereby infringing claim 7.

6.6 Dependent Claim 8

8. The computer program product of claim 1 further comprising instructions to cause the processor to link for inclusion in the customized proposal for the sale of the product at least one of the received answers with one of a plurality of performance specifications stored in the computer system, wherein the plurality of performance specifications relate to performance of the products in a variety of configurations.

6.6.1 Infringement by HMA

128. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 1 above. In addition, the screen images of ¶¶ 51 and 110 show that the programming that defines the server software of the *www.hyundaiusa.com* website includes instructions which cause the processor to link for inclusion in the customized proposal for the sale of the product at least one of the received answers with one of a plurality of performance specifications stored in the computer system, wherein the plurality of performance specifications relate to performance of the products in a variety of configuration. For example, if a user answers "YES" to the question "*Would you like to learn more about the performance of the Azera?"* as posed by the HTML defining the screenshot of ¶ 51, the programming of the *www.hyundaiusa.com* website's servers will select and output new HTML source as described in my discussion of claim 7 above.

129. Further, the HTML defining the "performance" screen image also allows the user of the *www.hyundaiusa.com* website to select either of two configurations for the Azera – the Azera GLS or the Azera Limited. Depending on the user's answer to the question "*Are you interested in the GLS or the Limited?"* the HTML source provides one of two small text areas as shown below:

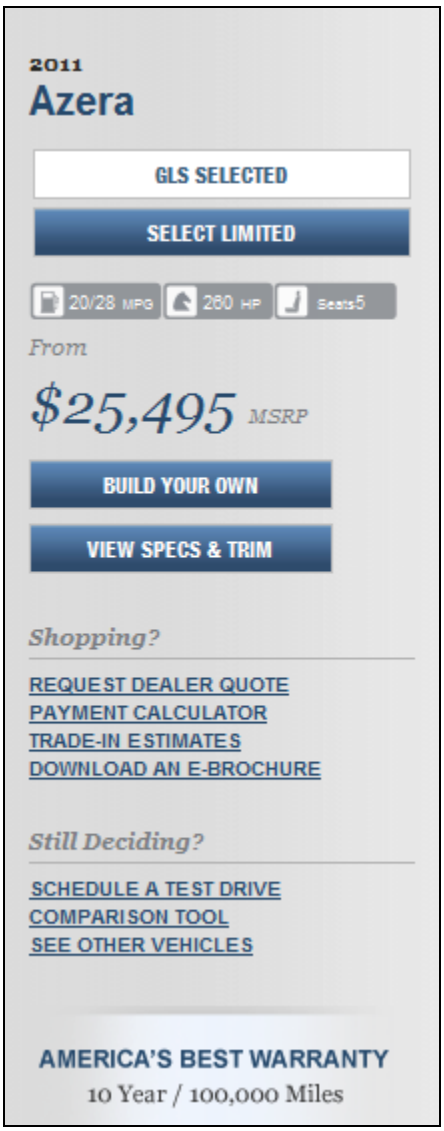
130. These two options provided by the HTML source describe the MPG and horsepower specification for those two different Azera configurations. By supplying HTML source defining information about the two Azera configurations as copied above, the *www.hyundaiusa.com* website meets the limitations added to claim 1 by claim 8, thereby infringing claim 8.

6.7 Dependent Claim 9

> *9. The computer program product of claim 1 further comprising instructions to cause the processor to: present a series of predetermined queries related to financing a product; and generate, for inclusion in the customized proposal for the sale of the product, financing information related to the product based on received individualized answers to the predetermined queries.*

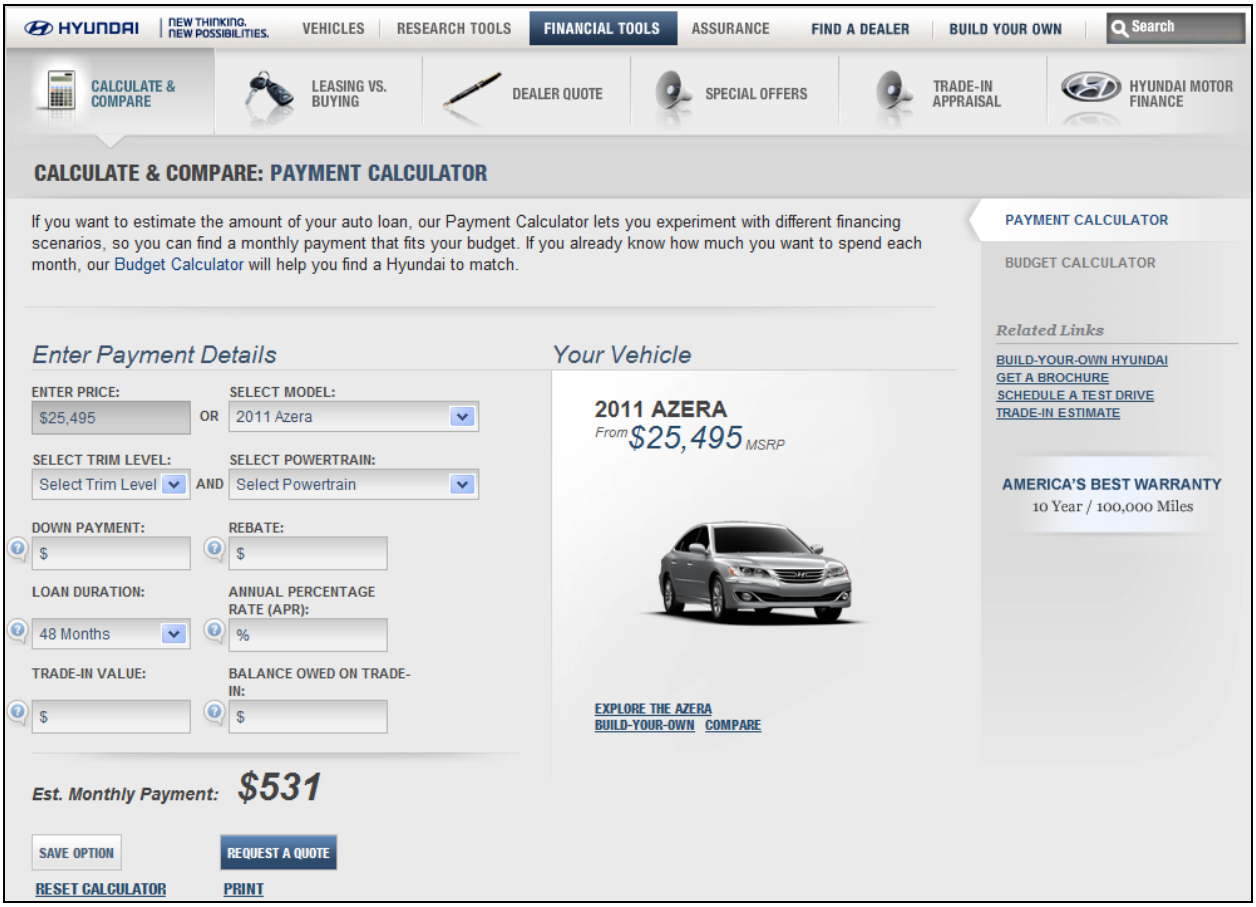
6.7.1 Infringement by HMA

131. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 1 above. In addition, the screen images of ¶¶ 51 and 110 show that the programming that defines the server software of the *www.hyundaiusa.com* website includes instructions which, in response to at least one of the answers provided by a user of that website when they select a vehicle of specific interest, causes the processors of those servers to output to that user a set of HTML source which includes a link that presents a series of predetermined queries relating to the financing of a product and generates for inclusion in the customized proposal for sale of the product financial information related to the product based on the received individual answers. For example, the Azera vehicle landing page includes a link to a "Payment Calculator" as show below:

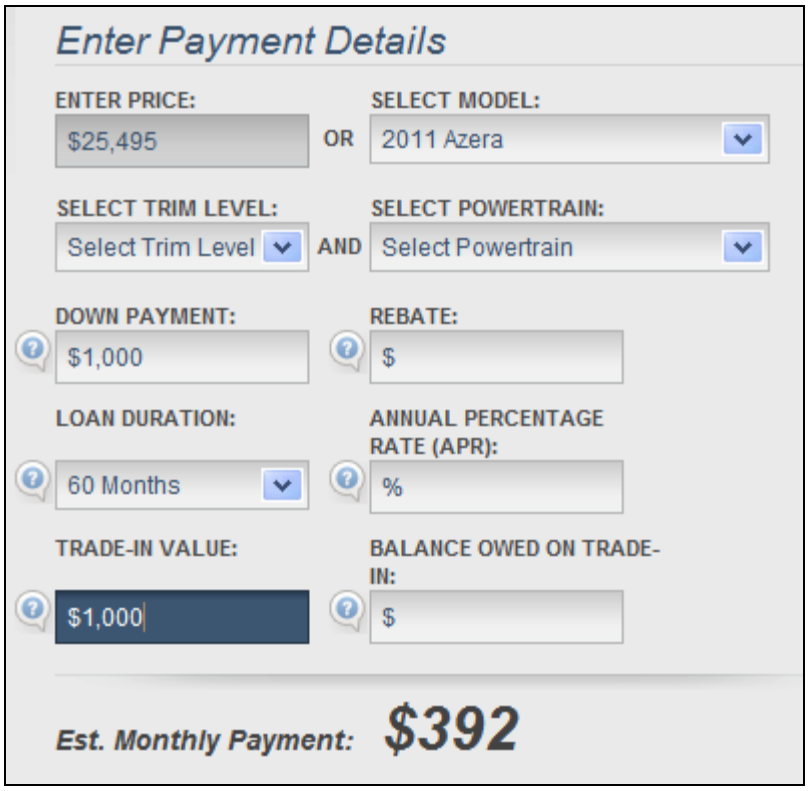


132. Clicking on the "PAYMENT CALCULATOR" link shown above takes a user to a new web page that includes several predetermined queries relating to the financing of a product, in this case the Azera. The predetermined queries include: PRICE, TRIM LEVEL, DOWN PAYMENT, REBATE, LOAN DURATION, ANNUAL PERCENTAGE RATE, TRADE-IN

PRICE and BALANCE OWED ON TRADE-In, as shown below:



133. As the user enters answers to the predetermined queries, the system generates an estimated monthly payment. For example, if I add a down payment of $1000, increase the loan duration to 60 months and enter a trade-in value of $1000, the estimated monthly payment is recalculated and displayed as $392, as shown in the image below:



134. This webpage forms part of the customized proposal for the sale of the product. By supplying HTML source providing the functionality described above, the *www.hyundaiusa.com* website meets the limitations added to claim 1 by claim 9, thereby infringing claim 9.

6.8 Independent Claim 11

135. The explanation of my opinion that the *www.hyundaiusa.com* website infringes claim 11 closely follows the explanation of my opinion of infringement of claim 1 as provided above.

6.8.1 Preamble

> *11. A method of generating a customized visual output with a computer system to facilitate a sale of a tangible product, the method comprising:*

6.8.1.1 Claim Constructions

136. Absent a construction from the Court, I have considered this Preamble to be a limitation of claim 1. I have also used the common understanding of the terms of this Preamble in forming my opinions regarding that claim. For example, I have again interpreted the term "product" to mean "something produced by human or mechanical effort or by a natural process." That

meaning is found, for example, in The American Heritage Dictionary (Second College Edition, 1991) at page 988..

6.8.1.2 Infringement by HMA

137. The *www.hyundaiusa.com* website, when it is used by a potential purchaser of a HMA vehicle or HMA personnel, provides a method of generating a customized visual output with a computer system (the servers which support the *www.hyundaiusa.com* website as identified above) to facilitate a sale of a tangible product (a selected HMA vehicle). For example, when a potential customer (in this case an individual interested in purchasing a vehicle from HMA) uses the *www.hyundaiusa.com* website in the manner described in § 4 above, that computer system uses the customer's answers to a series of questions to cause the customer to navigate through the a series of images which form the "customized visual output" of claim 11. The screen shot I included in ¶ 51 shows the "customized visual image" which the computer system assembled to facilitate the sale of an Azera to a customer interested in that HMA vehicle. The *www.hyundaiusa.com* website thereby meets the description of the Preamble of claim 11.

6.8.2 Step 11a

> *receiving from a user interface into the computer system answers to a plurality of questions from a specific customer related to at least one of a desired feature and desired use by the customer of the tangible product for sale;*

6.8.2.1 Claim Constructions

138. As I noted above, in addressing the proper construction of the phrase "a plurality of questions related to at least one of a desired feature and desired use of the product" [as used in some of the claims of the '342 patent], the Court stated on pages 7 and 8 of the First Opinion that "Orion contends that the phrases mean there are desired features and desired uses and the questions must relate to at least one of those—the questions must relate to either desired features, or desired uses, or both. The Court agrees. The specification does not require questions and answers on both features and uses." I have used that approach in addressing the scope of the similar limitation of Step 11a of the '739 patent, as well.

139. Further, on page 9 of the First Opinion the Court noted that "Defendants contend 'questions' [as used in some of the claims of the '342 patent] should be construed to mean: 'More than one inquiry that requests an answer and ends with a question mark. Commands and statements are not questions. Menus presenting options are not questions. Words or phrases not in question form that are selected with a cursor or selection device are not questions.'" The Court disagreed with that narrow proposed construction, concluding on page 11 of the First Opinion that "…there is nothing in the prosecution history indicating that the Applicant disclaimed a broader meaning of "questions." Further, there is no reason within the patent to believe the Applicant used "questions" in any manner besides its ordinary meaning. Accordingly, there is no need to construe the term, much less to stringently limit the meaning of "questions" as Defendants would like." I have used that approach in addressing the meaning of the term "questions" in Step 11a of the '739 patent, as well.

140. On pages 11 and 12 of the First Opinion the Court also stated that the terms "features of the products" and "uses of the products" should be given their ordinary meaning.

6.8.2.2 Infringement by HMA

141. The user interface provided by HMA is evident when a potential purchaser of a HMA vehicle uses, for example, the interface provided by the *www.hyundaiusa.com* website to answer a plurality of questions in order to obtain a proposal for a selected HMA vehicle. As an example of the required "plurality of questions," a customer interested in obtaining a proposal for the purchase of an Azera will answer the following sequence of questions through use of the *www.hyundaiusa.com* website:

> *Would you like to see the types of vehicles offered by HMA?*
>
> *Which type of HMA vehicle are you interested in?*
>
> *Are you interested in the Azera Family Sedan?*
>
> *Would you like to learn more about the Azera Family Sedan?*

I explained and illustrated that sequence of questions and answers in § 4 above.

142. As the customer answers each of those questions, their answers (the links they select on the screens presented to them by the *www.hyundaiusa.com* website) are sent to the computer

system (the server) of that website. That computer system receives those answers over the Internet.

143. As to the requirement of Step 11a for "questions from a specific customer related to at least one of a desired feature and desired use," as I noted above, the Court previously determined that answering questions relating to either a desired *feature* or a desired *use* would meet that limitation of Step 11a, and the *www.hyundaiusa.com* website receives answers from a customer using it which relate to desired features. For example, the proposal shown in the screenshot of ¶ 51 above is presented with links which seek to elicit answers to six additional questions:

> *Would you like to see a gallery of pictures showing the Azera Family Sedan?*
>
> *Would you like to learn more about the exterior of the Azera Family Sedan?*
>
> *Would you like to learn more about the interior features of the Azera Family Sedan?*
>
> *Would you like to learn more about the safety features of the Azera Family Sedan?*
>
> *Would you like to learn more about the performance of the Azera Family Sedan?*
>
> *Would you like to learn more about the specifications and trim of the Azera Family Sedan?*

144. Upon receiving a "YES" answer in response to any of those questions the *www.hyundaiusa.com* website presents the customer with a newly formatted proposal that, in each case, provides an image of the Azera Family Sedan and additional text on the selected topic. For example, a customer who answers the "performance" question will see the composite visual image shown¶ 71. That proposal also describes the audio features available on the Azera.

145. The answering selections made by the users in answering the questions posed to them by the *www.hyundaiusa.com* website are received by a server of the *www.hyundaiusa.com* website. I have "pinged" that website repeatedly in order to identify the physical server or servers that support it as of January 2011. As I noted above in ¶ 73 the servers responding to that ping were provided to HMA by Akamai Technologies.

146. As explained above, as the selections made by the users in answering the questions posed to them by the *www.hyundaiusa.com* website are received by a server of the *www.hyundaiusa.com* website, that server meets the limitations of Step 11a.

6.8.3 Step 11b

automatically selecting by the computer system, in response to at least one of the received answers, an image of a tangible product for sale, an image of an environment in which the product for sale is to be used and a text segment comprised of a description of the product specifications and performances that are of particular interest to the customer; and

6.8.3.1 Claim Constructions

147. The Court has determined that none of the terms in Step 11b require construction. I have therefore used to ordinary and customary meanings of those terms.

6.8.3.2 Infringement by HMA

148. As a server of the *www.hyundaiusa.com* website receives the answers to questions posed by the user interfaces of the *www.hyundaiusa.com* website, that server automatically selects, in response to at least one of those received answers such as a "YES" to the question "*Would you like to see more information about the Azera?*" as illustrated above, an image of the selected vehicle, an image of an environment in which the selected vehicle is to be used, and a text segment comprised of a description of the product specifications and performances that the vehicle the customer has selected.

149. As an example of the selection of those images and text, *see* the webpage depicted in the screenshot of ¶ 51 above. The HTML source which defines that imagery and text automatically selects an image of the Azera (*see* the top image) and an image of an environment in which the Azera is to be used (both the video of the Azera on the bridge and the image of an Azera on a street in front of a building).

150. In addition, several text segments are also shown in that webpage. Those text segments include a description of the product specifications for the Azera (*see*, for example, the text segment "The Hyundai Azera is equipped with a long list of active and passive safety features, including eight standard airbags, a high-tensile steel unibody, active front head restraints, Electronic Stability Control, a Traction Control System, and an intelligent braking system.) The performance of the Azera is also described in text (*see*, for example, the text segment "At Hyundai, we think of performance as another form of luxury, but we also believe performance is

more complex than the sum of a car's test data. Instead, we judge a car by asking one very important question: How well does it measure up to expectations? HMA engineers tried to go one step further, by engineering the Azera's performance to exceed expectations with responsive power, confident maneuvering and low noise levels.") *Also see* the additional information about Azera performance found in the screenshot of ¶ 71).

151. The "automatically selecting" required by Step 11b is performed when the HTML defining a webpage such as that shown in the screenshot of ¶ 51 is sent out by a server of the *www.hyundaiusa.com* website over the Internet. Using that example, the following snippet of the HTML source for that proposal causes the top image of the Azera shown therein (a JPEG file) to be selected for inclusion in the image defined by the overall HTML source code:

```
                        <div class="general_content">
                              <div    class="content_image    has_shadow"><img
src='/images/HYINDAIUSA/Vehicles/Azera/2011/QUIET-CONFIDENCE.jpg'       alt=''
width='655' height='261' /></div>

                        </div>
```

152. Similarly, the following snippet of the HTML source for that webpage causes the image of the Azera on a street in front of a building as shown in the proposal (another JPEG file) to be selected for inclusion in the image defined by the overall HTML source code:

```
                        <div class="general_content image_left">
                              <div    class="content_image    has_shadow"><img
src='/images/HYINDAIUSA/Vehicles/Azera/2011/SPEAK-SOFTLY.jpg'       alt='SPEAK
SOFTLY.' width='295' height='214' /></div>
```

153. In addition, the following snippet of the HTML source for that webpage causes the text snippet dealing with the performance of the Azera – along with the link presenting the "Do you want more information about the performance of the Azera? Question – to be included in the image defined by the overall HTML source code :

```
                        <div class="general_content">
                              <div class="content_copy">
                                    <h2 >QUIET CONFIDENCE.</h2>
                                    <p>Some might say performance doesn't
matter in a luxury car. If that were the case, luxury cars would be nothing
more than economy cars with added equipment. At Hyundai, we think of
performance as another form of luxury, but we also believe performance is
more complex than the sum of a car's test data. Instead, we judge a car by
asking one very important question: How well does it measure up to
expectations? Hyundai engineers tried to go one step further, by engineering
the Azera's performance to exceed expectations with responsive power,
confident maneuvering and low noise levels.</p>
```

```
<a href="/azera/performance.aspx" class="content_button">More about The
Performance</a>
                                </div>
                            </div>
```

154. The automatic selection of those images and text snippets, as well as the others included in the HTML source of the webpage shown in ¶ 51 above, meets the limitations of Step 11b.

6.8.4 Step 11c

> *integrating the selected images and selected text segment into a proposal for the sale of the product customized to the specific customer such that a single composite customized visual output showing the product in the product environment along with said text segment,*

6.8.4.1 Claim Constructions

155. In the Second Opinion the Court construes the phrase "single composite customized visual output" to mean "a single image that includes the selected text and an image of a product in a product environment."

6.8.4.2 Infringement by HMA

156. The integration of images and text required by Step 11c was demonstrated above in the webpage shown in ¶ 51 above. As I noted above, that webpage even includes the MSRP, a sales term, for the Azera that was the selected HMA product. As I explained above, the HTML source code that defines the pages of the proposals provided by the *www.hyundaiusa.com* website integrates those images and text so as to define a single image that includes the selected text and an image of a product in a product environment, thereby meeting the limitations of Step 11c.

6.8.5 The Wherein Clause

> *wherein the single composite visual output is generated by: a selection device operatively interconnected to an active database, the active database configured to electronically store customer information obtained via the user interface; the selection device operatively connected to a static database, the static database electronically storing at least one of, (a) text, (b) pictures or (c) text and pictures, relating to at least one product; and the system dynamically building a template*

utilizing the selection device to fill in the template to produce the customized visual output.

6.8.5.1 Claim Construction

157. I provided the Court's constructions of "database," "active database," "static database," "selection device," and "dynamically building a template" above.

6.8.5.2 Infringement by HMA

158. In my opinion the "selection device" of the Wherein Clause of claim 11 is the server software running at each of the servers provided to HMA by Partners Consulting. Given the answers to question posed to the customer accessing the *www.hyundaiusa.com* website by that website, that server software selects a specific HTML source file for transmission to the customer. Based on my investigation it is clear that the server software is operatively connected to an active database that holds information such as identification information entered by the customer. *See* my discussion of the active database with regard to the "Wherein Clause" of claim 1.

159. The "static database" of the *www.hyundaiusa.com* website is holds the linked images that define the screen images of that website. That database is an "organized collection of product information and images." It is also a "database that is not alterable based on customer answers about features and uses." *See* my discussion of the static database with regard to the "Wherein Clause" of claim 1.

160. As to the last part of the Wherein Clause, the term "system dynamically building a template utilizing the selection device to fill in the template to produce the customized visual output," my investigation of the HTML source supplied by the servers of the *www.hyundaiusa.com* website has shown that those servers perform that operation. As explained above, as a user interacts with a HMA server via the Internet, that server sends HTML files to that user. In many of those HTML files there are calls which ask the HMA server to supply an image file that represents some aspect of the HMA product the user is inquiring about. For example, in ¶ 51 above I showed a screen shot that resulted from a user's expression of interest in an Azera. Included in the HTML source for that screen is the following image request:

```
<div class="general_content">
                                        <div class="content_image
has_shadow"><img src='/images/HYINDAIUSA/Vehicles/Azera/2011/QUIET-
CONFIDENCE.jpg' alt='' width='655' height='261' /></div>

                                    </div>
```

161. That HTML causes a request to be sent to the HMA server asking for an image whose full pathname is:

www.hyundaiusa.com/images/HYUNDAIUSA/Vehicles/Azera/2011/QUIET-CONFIDENCE.jpg

162. I have confirmed that fact by using my browser to request the data stored at the *www.hyundaiusa.com* website corresponding to it. The result is the following image:

163. Comparison with the images shown in the screen shot of ¶ 51 above shows that the above image has been placed into that webpage as a result of the *www.hyundaiusa.com* server inserting the above link into the HTML defining that screen at the point. By supplying the image file, that server performed the requirement of the Wherein Clause of claim 11 for "system dynamically building a template utilizing the selection device to fill in the template to produce the customized visual output," where the "template" is the rest of the HTML included in the file corresponding to the screen shot of ¶ 51. The "dynamic[] building" of that template happens in sequence as the HTML source file is sent out by the server, followed by the server sending out the image files that are referenced at various other places within that source file. *Also see* my discussion of the static database with regard to the "Wherein Clause" of claim 1 again.

164. As explained above, the *www.hyundaiusa.com* website meets the limitations of the Wherein Clause of claim 11.

6.8.6 Summary Opinion of Infringement

165. As shown above, the *www.hyundaiusa.com* website meets all of the limitations of each step of claim 11 as well as meeting the limitations of that claim's Whereas Clause. That website therefore infringes claim 11.

6.9 Dependent Claim 12

> *12. The method of claim 11 further comprising outputting the customized visual output to a user as a customized proposal.*

6.9.1 Infringement by HMA

166. The explanation of my opinion that the *www.hyundaiusa.com* website infringes claim 12 closely follows the explanation of my opinion of infringement of claim 2 as provided above.

167. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 11 above. In addition, the screen image of ¶ 51 shows that the programming that defines the server software of the *www.hyundaiusa.com* website includes instructions and requests for images which, in response to the answers provided by a user of that website, cause the processors of those servers to output to that user a set of HTML source which defines a single composite screen image in the form of a customized proposal for the sale of the selected vehicle. *See* my discussion of the Preamble of claim 1, as well. As a result, the *www.hyundaiusa.com* website meets the limitations added to claim 11 by claim 12, thereby infringing claim 12.

6.10 Dependent Claim 13

> *13. The method of claim 12 wherein the outputting comprises displaying the customized visual output on a computer monitor for viewing by the user.*

6.10.1 Infringement by HMA

168. The explanation of my opinion that the *www.hyundaiusa.com* website infringes claim 13 closely follows the explanation of my opinion of infringement of claim 3 as provided above.

169. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claims 11 and 12 above. In addition, the screen image of ¶ 51 shows that the programming that defines the server software of the *www.hyundaiusa.com* website includes instructions which, in response to the answers provided by a user of that website, cause the processors of those servers to output to that user a set of HTML source which defines customized proposal for the sale of the selected vehicle. That HTML source, when rendered by the browser at the user's computer, results in the display of that proposal on the user's computer monitor. As a result, the *www.hyundaiusa.com* website meets the limitations added to claims 11 and 12 by claim 13, thereby infringing claim 13.

6.11 Dependent Claim 17

> *17. The method of claim 11 wherein the computer system stores a plurality of product specifications related to producing the products in a variety of configurations, the method further comprising linking at least one of the received answers with one of the plurality of product specifications for inclusion in the customized visual output.*

6.11.1 Infringement by HMA

170. The explanation of my opinion that the *www.hyundaiusa.com* website infringes claim 17 closely follows the explanation of my opinion of infringement of claim 7 as provided above.

171. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 11 above. In addition, the screen image of ¶ 51 shows that the HMA computer system used to implement the *www.hyundaiusa.com* website stores a plurality of product specifications related to producing the products in a variety of configurations, the method further comprising linking at least one of the received answers with one of the plurality of product specifications for inclusion in the customized visual output. For example, if a user answers "*YES*" to the question "*Would you like to learn more about the performance of the Azera?"* as posed by the HTML defining the screenshot of ¶ 51, the programming of the *www.hyundaiusa.com* website's servers will select and output new HTML source which includes the following text segment:

> *Drive the Azera and you'll notice the sensation of having deep reserves of power—its V6 engine includes technologies like Continuously Variable Valve*

Timing and a Variable Intake System, and is generously sized to produce strong torque at low engine speeds. Details like iridium-tipped spark plugs and a high 10.4:1 compression ratio further enhance the engine's sensitivity to your every request.

Adding to this responsiveness is a six-speed automatic transmission that is adept at choosing the right gear at the right time. If you want to make those decisions yourself, just move the gear selector over to the SHIFTRONIC® gate for added control.

172. The text segment copied above discusses the Azera's V6 engine with its Continuously Variable Valve Timing and a Variable Intake System, its use of iridium-tipped spark plugs, its 10.4:1 compression ratio, and its SHIFTRONIC® gear selection, all of which are specifications pertinent to an available Azera configuration. Further, the HTML defining the "performance" screen image also allows the user of the *www.hyundaiusa.com* website to select either of two configurations for the Azera – the Azera GLS or the Azera Limited. Depending on the user's answer to the question "*Are you interested in the GLS or the Limited?"* the HTML source provides one of two small text areas as shown below:

These two options provided by the HTML source describe the MPG and horsepower specification for those two Azera configurations.

173. By supplying text segments such as those copied above, the *www.hyundaiusa.com* website meets the limitations added to claim 11 by claim 17, thereby infringing claim 17.

6.12 Dependent Claim 18

18. The method of claim 11 wherein the computer system stores a plurality of performance specifications related to performance of the products in a variety of configurations, the method further comprising linking at least one of the received answers with one of the plurality of performance specifications for inclusion in the customized visual output.

6.12.1 Infringement by HMA

174. The explanation of my opinion that the *www.hyundaiusa.com* website infringes claim 18 closely follows the explanation of my opinion of infringement of claim 8 as provided above.

175. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 11 above. In addition, the screen image of ¶ 51 shows that the HMA computer system used to implement the *www.hyundaiusa.com* website stores a plurality of performance specifications related to performance of the products in a variety of configurations, the method further comprising linking at least one of the received answers with one of the plurality of performance specifications for inclusion in the customized visual output. For example, if a user answers "*YES*" to the question "*Would you like to learn more about the performance of the Azera?"* as posed by the HTML defining the screenshot of ¶ 51, the programming of the *www.hyundaiusa.com* website's servers will select and output new HTML source as described in my discussion of claim 17 above.

176. Further, the HTML defining the "performance" screen image also allows the user of the *www.hyundaiusa.com* website to select either of two configurations for the Azera – the Azera GLS or the Azera Limited. Depending on the user's answer to the question "*Are you interested in the GLS or the Limited?"* the HTML source provides one of two small text areas as shown below:

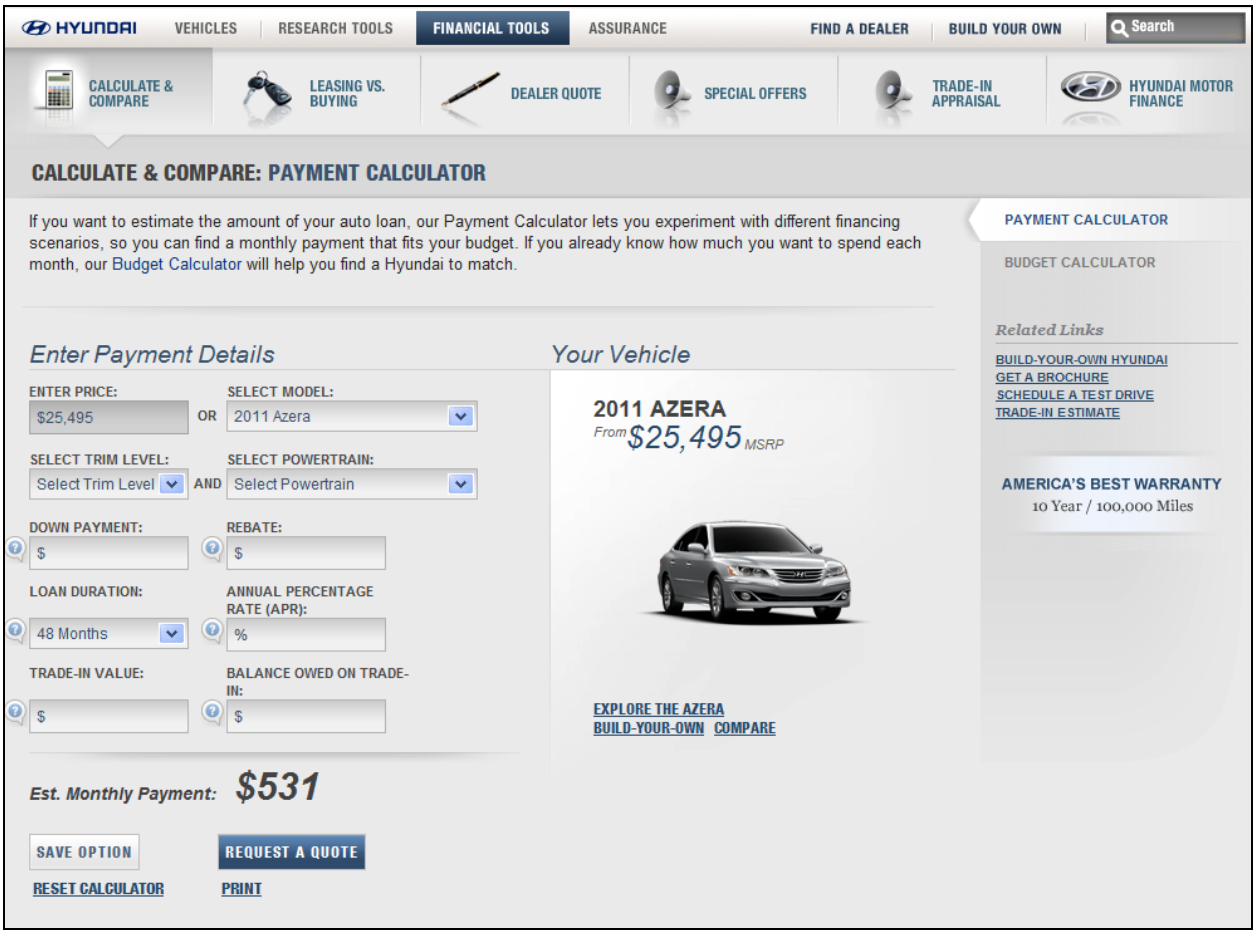
177. These two options provided by the HTML source describe the MPG and horsepower specification for those two Azera configurations. By supplying HTML source defining information about the two Azera configurations as copied above, the *www.hyundaiusa.com* website meets the limitations added to claim 1 by claim 18, thereby infringing claim 18.

6.13 Dependent Claim 19

> *19. The method of claim 11 further comprising: presenting a series of predetermined queries related to financing a product; receiving individualized answers to the predetermined queries; and generating, for inclusion in the customized visual output, financing information related to the product.*

178. The explanation of my opinion that the *www.hyundaiusa.com* website infringes claim 19 closely follows the explanation of my opinion of infringement of claim 9 as provided above.

179. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 11 above. In addition, the *www.hyundaiusa.com* website includes an opportunity for the customer to answer the question "*Would you like to calculate a payment for the Azera?"* The result of answering that question "*YES*" is the screen shown below"



180. By sending out the HTML source defining the "Payment Details" areas of the screen shown above, the *www.hyundaiusa.com* server performs the step of "presenting a series of predetermined queries related to financing a product; receiving individualized answers to the predetermined queries; and generating, for inclusion in the customized visual output, financing information related to the product." In so doing, the *www.hyundaiusa.com* website meets the limitations added to claim 1 by claim 19, thereby infringing claim 19.

6.14 Independent Claim 20

181. The explanation of my opinion that the www.hyundaiusa.com website infringes claim 20 closely follows the explanation of my opinion of infringement of claims 1 and 11 as provided above.

6.14.1 Preamble

20. A computer system for generating a customized proposal to facilitate a sale of a tangible product, the system comprising:

6.14.1.1 Infringement by HMA

182. The *www.hyundaiusa.com* website is provided by a computer system comprising a memory system storing images of tangible products for sale. I described that system in explaining my opinion of infringement of claim 1. Additional details are provided in discussing the elements of claim 20 below.

6.14.2 Element 20a

a memory system having stored therein images of a tangible products for sale, images of environments in which the products for sale are to be used and a text segments comprised of a descriptions of the product specifications and performances;

6.14.2.1 Infringement by HMA

183. The computer system of the *www.hyundaiusa.com* website includes a memory which stores images of products for sale (HMA vehicles), environments in which those products can be used, and text segments. For example, in the webpage shown in ¶ 51 an image of the Azera is selected by from the memory system of the www.hyundaiusa.com website that stores the images of HMA's tangible products. *Also see* ¶ 110 above.

184. Testimony from the HMA corporate designees confirms this. For example, both Messrs. Ton and McLeod admitted that the servers used by HMA to implement its website have a memory system. *See*, for example, Ton at 122:10-12 and 124:12-17 and McLeod at 103-06, including where Mr. McLeod testified at 105:6-106:8 that:

> Q Okay. But the partners web servers also have a memory system?
> A Right.
> …
> Q The memory system in the partners web servers stores images of Hyundai products?
> A The hard drives will have the image -- images on there.

Q Okay. And the hard drives in the partners web servers will also store images of the products in an environment?

A So in an environment, you mean a car with a mountain back drop?

Q Sure.

A They do.

Q The hard drives in the partners web servers also stores XML files that include text that will be displayed on the web pages on the Hyundai USA website. Right?

A Yes.

185. *Also see* Ton at 88-91 and 98-99 where he described the directory structure of the static database on the web server hard disk drives that stored product pictures and text that would be displayed on the HMA website.

6.14.3 Element 20b

a user interface configured to prompt a user of the computer system with a plurality of questions related to at least one desired feature and desired use of the product by a specific customer and to receive answers to the plurality of questions from the customer; and

6.14.3.1 Infringement by HMA

186. The computer system of the *www.hyundaiusa.com* website includes a user interface configured to prompt a user of the computer system with a plurality of questions related to at least one desired feature and desired use of the product by a specific customer and to receive answers to the plurality of questions from the customer. For example, the portions of the webpages used to reach the vehicle landing pages described in ¶ 51 is a user interface that prompts the user with a plurality of questions and the HMA system receives the answers to the questions in the form of request for different webpages. As another example, the Build Your Own pages described in ¶¶ 108 and 109 are also a user interface that performs these same operations. *Also see* § 6.2.2 above.

187. Testimony from the HMA corporate designees confirms this. For example, both Messrs. Ton and McLeod admitted that the HMA website has a user interface. *See* Ton at 125:13-126:19 and McLeod at 112:3-15 where Mr. McLeod testified that: "Q Does the Hyundai USA website have a user interface? A Yes."

6.14.4 Element 20c

a processing system, operatively coupled to the memory system and user interface, that automatically selects, in response to receipt of at least one of the answers, an image of a tangible product for sale, an image of an environment in which the product for sale is to be used and a text segment comprised of a description of the product specifications and performances that are of particular interest to the customer from those stored in the memory system, and the processing system integrates the selected images and the selected text segment into a proposal for the sale of the product customized to the specific customer such that a single composite customized visual output showing the product in the product environment along with said text segment,

6.14.4.1 Infringement by HMA

188. The computer system of the *www.hyundaiusa.com* website includes a processing system that is operatively coupled to the memory system and user interface. That processing system automatically selects, in response to receipt of at least one of the answers provided to it, an image of a tangible product for sale, an image of an environment in which the product for sale is to be used and a text segment comprised of a description of the product specifications and performances that are of particular interest to the customer from those stored in the memory system, and the processing system integrates the selected images and the selected text segment into a proposal for the sale of the product customized to the specific customer such that a single composite customized visual output showing the product in the product environment along with the text segment. That processing system includes the processors of the web servers used in the HMA system, which in conjunction with the web server .net code and the IIS software, respond to at least one of the user's answers and integrate a single composite customized visual output showing the HMA product in the product environment along with text describing the product specifications and performance. *Also see* §§ 6.2.3 and 6.2.4 above.

189. Testimony from the HMA corporate designees confirms this. For example, both Messrs. Ton and McLeod admitted that the HMA website has a processing system. *See* Ton at 126:20-127:1 and McLeod at 103:2-6, 105:3-11, 106:20-21. Mr. Ton testified: "Q Okay. Do the

Partners Consulting Web servers also have a processing system? A Yes, it have to have a CPU, so it do have it."

6.14.5 The Wherein Clause

wherein the single composite visual output is generated by: a selection device operatively interconnected to an active database, the active database configured to electronically store customer information obtained via the user interface; the selection device operatively connected to a static database, the static database electronically storing at least one of, (a) text, (b) picture or (c) text and pictures, relating to at least one product; and the system dynamically building a template utilizing the selection device to fill in the template to produce the single composite visual output.

6.14.5.1 Infringement by HMA

190. The computer system of the *www.hyundaiusa.com* website includes a selection device operatively that generates the single composite visual output. That selection device is also operatively interconnected to an active database, the active database configured to electronically store customer information obtained via the user interface, and is also operatively connected to a static database, the static database electronically storing at least one of: (a) text, (b) picture or (c) text and pictures, relating to at least one product. In addition, the system dynamically builds a template utilizing the selection device to fill in the template to produce the single composite visual output. As described above, in my opinion the "selection device" is the web server .net code running on the Partners Consulting web servers and the web server software (Microsoft IIS on the Partners Consulting web servers) running on each of the servers used by the HMA system. The active database includes the Hyundai USA database stored on the SQL servers. The static database includes the directory structure and files stored on the Partners Consulting and Akamai servers.

191. The language of this claim limitation is essentially identical to that in claims 1 and 11, so the same analysis, explanation and evidence shows that the system implementing the HMA website meets this limitation. *Also see* § 6.2.6 above.

6.14.6 Summary Opinion of Infringement

192. As shown above, the *www.hyundaiusa.com* website meets all of the limitations of each element of claim 20 as well as meeting the limitations of that claim's Whereas Clause. That website therefore literally infringes claim 20.

6.15 Dependent Claim 21

> *21. The system of claim 20 wherein the user interface comprises a visual output to the user of the customized proposal for the sale of the product.*

6.15.1.1 Infringement by HMA

193. The explanation of my opinion that the *www.hyundaiusa.com* website infringes claim 21 closely follows the explanation of my opinion of infringement of claims 2 and 12 as provided above.

194. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 20 above. In addition, the *www.hyundaiusa.com* website has a user interface that includes a visual output to the user of the customized proposal for sale of the product. For example, the *www.hyundaiusa.com* website includes on the vehicle landing pages a display of the manufacturer's suggested retail price of the particular model. As another example, on the Build Your Own page, the total MSRP is calculated as the customer selects from the various available options. As a result, the *www.hyundaiusa.com* website meets the limitations added to claim 20 by claim 21, thereby literally infringing claim 21.

6.16 Dependent Claim 24

> *The system of claim 20, wherein: the memory further has stored therein a plurality of predetermined product specifications related to producing the products in a variety of configurations; and the processing system links at least one of the answers with one of the plurality of product specifications for inclusion in the customized proposal for the sale of the product.*

6.16.1.1 Infringement by HMA

195. The explanation of my opinion that the *www.hyundaiusa.com* website infringes claim 24 closely follows the explanation of my opinion of infringement of claims 7 and 17 as provided above.

196. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 20 above. In addition, the memory of the HMA system implementing the *www.hyundaiusa.com* website stores a plurality of predetermined product specifications related to producing the products in a variety of configurations, and the processing system links at least one of the answers with one of the plurality of product specifications for inclusion in the customized proposal for the sale of the product, as discussed above. As a result, the *www.hyundaiusa.com* website meets the limitations added to claim 20 by claim 24, thereby literally infringing claim 24.

6.17 Dependent Claim 25

> *25. The system of claim 20, wherein: the memory further has stored therein a plurality of predetermined performance specifications related to performance of the products in a variety of configurations; and the processing system links at least one of the answers with one of the plurality of performance specifications for inclusion in the customized proposal for the sale of the product.*

6.17.1.1 Infringement by HMA

197. The explanation of my opinion that the *www.hyundaiusa.com* website infringes claim 25 closely follows the explanation of my opinion of infringement of claims 8 and 18 as provided above.

198. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 20 above. In addition, the memory of the HMA system implementing the *www.hyundaiusa.com* website stores a plurality of predetermined product specifications related to producing the products in a variety of configurations, and the processing system links at least one of the answers with one of the plurality of product specifications for inclusion in the customized proposal for the sale of the product, as discussed above. As a result, the

www.hyundaiusa.com website meets the limitations added to claim 20 by claim 25, thereby literally infringing claim 25.

6.18 Dependent Claim 26

> *26. The system of claim 20 wherein: the user interface is further configured to present to the user a series of predetermined queries related to financing a product and to receive individualized answers to the predetermined queries; and the processing system generates, for inclusion in the customized proposal for the sale of the product, financing information related to the product.*

6.18.1.1 Infringement by HMA

199. The explanation of my opinion that the *www.hyundaiusa.com* website infringes claim 26 closely follows the explanation of my opinion of infringement of claims 9 and 19 as provided above.

200. I explained my opinion that the *www.hyundaiusa.com* website meets the limitations of claim 20 above. In addition, the user interface of the HMA system implementing the *www.hyundaiusa.com* website is configured to present to the user a series of predetermined queries related to financing a product and to receive individualized answers to the predetermined queries, and the processing system generates, for inclusion in the customized proposal for the sale of the product, financing information related to the product, as discussed above. As a result, the *www.hyundaiusa.com* website meets the limitations added to claim 20 by claim 26, thereby literally infringing claim 26.

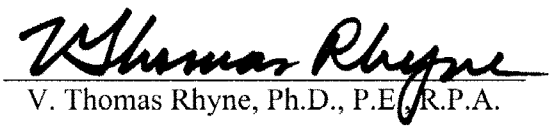
7. OPINION REGARDING U.S. PATENT NO. 6,704,791

201. I have also been asked to provide my technical opinion regarding United States Patent No. 6,704,791 and its area of technology relative to the '739 patent. The '791 patent appears to cover a method and apparatus for producing and transmitting higher resolution information, including 3D information, to thick clients (*i.e.,* clients with greater information handling capability such as a personal computer) and for producing and transmitting lower resolution information to thin clients (*i.e.*, computer devices with less information handling capability such as cellular phones). *See* for example, claims 1 and 6 of the '791 patent. It is my opinion that the

’791 patent is not significantly comparable to the technology of the ’739 patent. For example, the technology of the ’791 patent relates to images with “varying degrees of resolution,” (’791 patent at 1:61), while the technology of the ’739 patent does not require or relate to images with varying degrees of resolution. As another example, the technology of the ’791 patent includes images with at least two different resolutions, the first resolution “could be a simple two-dimensional compressed image such as a gif or jpeg type image” and the second resolution is a three-dimensional model,” (’791 patent at 1:64-65 and 2:5-14), while the technology of the ’739 patent does not require or relate to 3-D images. While the ’739 patent can be used with 3-D images and images of varying resolution, it relates primarily to an electronic proposal generating system, including images of products in an environment, text of the products specifications and performances, and an active database to store user-provided information. That is unlike the technical focus of the ’791 patent.

I declare under penalty of perjury that the statements in this declaration are true and correct.

Signed on February 7, 2011, in Austin, Texas.



V. Thomas Rhyne, Ph.D., P.E., R.P.A.

8. EXHIBIT A: REQUIRED INFORMATION

8.1 Curriculum Vitae

VERNON THOMAS (TOM) RHYNE, III

8407 Horse Mountain Cove
Austin, TX 78759-6828
Phone and FAX: (512) 219-0849
E-Mail: trhyne@texas.net or t.rhyne@ieee.org

BIOGRAPHICAL DATA

Birthdate: February 18, 1942

Citizenship: USA

Married: Glenda Pevey Rhyne

Children: Amber Rhyne Compton and Vernon Thomas Rhyne, IV

Grandchildren: Truett Rhyne Compton and Tate James Compton

Security Clearance: Department of Defense Secret (Inactive)

PROFESSIONAL INTERESTS

- Microprocessor/Microcomputer Design and Application
- Computer-Aided Design
- Computer Architecture
- Digital Systems Design and Synthesis
- Digital Communications
- Electronic Circuit Design
- Semiconductor Manufacture
- Technology Maturation and Commercialization
- Intellectual Property Litigation

EDUCATION

- Ph.D. (Electrical Engineering) — Georgia Institute of Technology, 1967.
- M.E.E. — University of Virginia, 1964.
- B.S.E.E. (Special Honors) — Mississippi State University, 1962.
- Japanese Language Instruction, 1988-89, 1996, 1997.
- Modern Semiconductor Manufacturing, Motorola University, 1996.

WORK EXPERIENCE

Industrial and Research:

1997-Present: Retired from Texas A&M University; part-time engineering consultant.

1995-1997: Manager of Strategic Programs, Strategic Asset Group, Semiconductor Products Sector, Motorola, Inc, Austin, TX. Responsible for technology transfer negotiations and management of joint ventures with strategic partners.

1994-1995: Vice President, Research and Development, Information Systems Division, Microelectronics and Computer Technology Corporation (MCC). Responsible for MCC R&D in neural network applications, data mining, software interface standardization, and other advanced software development projects.

1991-1994: Director, MCC ATLAS Standards Laboratories. Responsible for definition and testing of CAD framework and interfaces in support of the CAD Framework Initiative, Inc.

1989-1991: Manager, CAD Framework Laboratory, MCC CAD Program. Responsible for definition and testing of CAD framework and interfaces.

1988-1989: Manager, Systems Engineering Group, MCC CAD Program, 1988. Responsible for alpha testing of MCC CAD System.

1986-1989: Deputy Director, MCC CAD Program. Responsible for general program administration.

1983-1986: Director, Systems Technology Laboratory, MCC CAD Program, Austin, TX. Responsible for development of supporting technologies for MCC CAD System including distributed databases, natural-language interface, and rule-based design management.

1962-1965: Aerospace Technologist, Analysis and Computer Technology Division, NASA Langley Research Center, VA

1965-1967: System Engineer (Part-Time), Lockheed-Georgia Research Center, Marietta, GA.

1961: Summer Intern, Union Carbide Corporation, Texas City, TX.

Academic:

- Senior Lecturer in Electrical/Computer Engineering, University of Texas at Austin, 1984-1994.
- Adjunct Faculty Member, Department of Electrical and Computer Engineering, Carnegie-Mellon University, 1986-1992.
- University/SRC Coordinator, MCC CAD Program, 1988-1990; SRC Design Sciences Advisory Committee, 1989-1990.
- Professor, Electrical Engineering, Texas A&M University 1974-1986 (on leave to MCC during 1983-86).
- Coordinator of Computing, Texas AM University, 1982-1983.

- Director, Digital Systems Laboratory, Department of Electrical Engineering, Texas A&M University, 1978-1983.
- Associate Professor, Electrical Engineering, Texas A&M University, 1969-1974.
- Assistant Professor, Electrical Engineering, Texas A&M University, 1967-1969.
- Instructor, Electrical Engineering, Georgia Institute of Technology, 1965-1967.
- Lecturer, Computer Systems, George Washington University Extension, 1964.

Consulting:

- Consultant to a number of companies and law firms re intellectual property litigation, 1978-present (part-time).
- Consultant to the Electric Power Research Institute, including serving as technical project manager on the EPRI/DOE Distribution Automation Project, 1979-1983.
- Consulting engineer to a variety of national and international industries dealing with microelectronics and computer design. Clients have included Texas Instruments, Control Data Corporation, AMD, ETA, and Signetics.
- Consulting engineer to a variety of clients dealing with computer systems for satellite navigation. Clients have included Texas Instruments, Gould, Matsushita, ITE-Europe, and the Federal Republic of Germany.
- Invited member of NASA Shuttle-GPS Advisory Panel and EPRI/DOE Distribution Automation Research Review Panel, 1979-1981.
- Consultant to U.S. Coast Guard, developing on-line data acquisition system for shipboard navigation data and off-line data processing/analysis systems, 1979-1982.
- Principal investigator on research projects dealing with automated Boolean minimization, high-speed computer arithmetic, bit-serial processing, special-purpose VLSI architectures, marine navigation systems, and computer-aided design of digital systems, 1967-83.

OTHER PROFESSIONAL ACTIVITIES

- Member, Panel on Assessment, Electrical and Electronics Engineering Laboratory, U.S. National Institute for Standards and Technology, 1993 to 1999; Panel Chair, 1996-99. (Appointed by National Research Council)
- Planning Committee, 1997 Workshop for National Technology Roadmap for Semiconductors, SIA.
- Member, Technical Working Group (TWIG) on Semiconductor Manufacture, SIA, 1995-97.
- Secretary, Board of Directors of White Oak Semiconductor, Inc., Richmond, VA, 1996-97.
- Executive Secretary, Board of Directors of the Tohoku Semiconductor Corporation, Sendai, Japan, 1996-97.

- Board of Directors Alternate, Semiconductor Research Corporation, representing Motorola, 1995-96.
- Roadmap Coordinating Committee, Semiconductor Industries Association, 1995.
- Book reviewer, *American Scientist*, 1993.
- Reviewer for State-funded research proposals in microelectronics, computer science, and computer engineering, Texas Higher Education Coordinating Board, 1993.
- Visitor for Accreditation Board for Engineering and Technology, accrediting undergraduate programs in Computer Science, Computer Engineering and Electrical Engineering, 1981-1983, 1991-92, 1997-present.
- Chair for nine U.S. engineering program accreditation teams, 1984-90, including accreditation teams for the University of California at Berkeley (1988) and the University of Illinois (1989).
- Advisor, Texas State Board of Education (1985), Texas State Coordinating Board for Higher Education (1987).
- Consultant on international engineering accreditation, Kuwait University College of Engineering and Petroleum (1990 and 1992), Korean Institute for Advanced Science and Technology (1993), Bilkent University, Ankara, Turkey (1995), University of the United Arab Emirates (1998), ITESM, Querétaro, Mexico (1999), Kyoto University, Japan (2000), Ritsumeikan University, Japan (2000), Mapua Institute of Technology, Manila (2004).
- Consultant on engineering accreditation to the Japan Accreditation Board for Engineering Accreditation, 2000-2004.
- Advisor to the Washington Accord on International Engineering Accreditation, 2003-04.
- Consultant on engineering education and long-range planning, George Washington School of Engineering and Applied Science, 1990 and 1993-94.

PROFESSIONAL LICENSES

- Registered Professional Engineer, Texas, No. 28,728.
- Registered Patent Agent, No. 45,041.
- Pilot (Single-Engine Land).

PROFESSIONAL AND HONORARY SOCIETY MEMBERSHIPS

Professional Societies:

- Member, Institute of Electrical and Electronics Engineers, 1963-present.
- IEEE Treasurer, 1994 and 1995.
- IEEE Board of Directors, 1991-1995.
- IEEE Executive Committee, 1993-1995.
- IEEE Board of Directors, Division VIII Director, 1993, Division VI Director, 1991-1992.

- IEEE Technical Activities Board, 1991-93.
- IEEE Employee Benefits Committee, Member, 1991 to 1999, Chair, 1997, 1998.
- IEEE Computer Society, 1964 to present.
- IEEE Computer Society Board of Governors, 1985.
- IEEE Computer Society Executive Committee, 1993.
- Accreditation Board for Engineering and Technology, 1994 to 1999, representing IEEE.

Honorary Societies:

- Upsilon Pi Epsilon (Computer Science).
- Eta Kappa Nu (Electrical Engineering).
- Tau Beta Pi (Engineering).
- Phi Kappa Phi (Scholarship).
- Sigma Xi (Research).

OTHER HONORS

- The Contemporary Who's Who, 2003.
- Strathmore's Who's Who, 2000-present.
- IEEE Millennium Award, 2000.
- Golden Core Award, IEEE Computer Society, 1996.
- Fellow of the Accreditation Board for Engineering and Technology, 1992.
- Outstanding Engineering Graduate, Mississippi State University, 1992.
- IEEE Educational Activities Board Award for Meritorious Achievement in Accreditation Activities, 1991.
- Who's Who in America, 1991-present.
- Who's Who in Engineering, 1991-present.
- Elected as an IEEE Fellow for "contributions to computer engineering and the computer engineering profession," 1990.
- F. E. Terman Award (Outstanding Young Electrical Engineering Educator in U.S.), American Society for Engineering Education, 1980.
- Outstanding Young Engineer (Honorable Mention), National Society of Professional Engineers, 1974.
- Young Engineer of the Year, State of Texas, Texas Society of Professional Engineers, 1973.
- Outstanding Faculty Member, Texas A&M University Student Engineers Council Award, 1973.
- General Dynamics Award for Excellence in Engineering Teaching, 1972.

- American Men and Women of Science.

COMMITTEE MEMBERSHIPS

Professional Activities:

- Technical Program Chair for 1992 IFIPS Workshop on Electronic CAD Design Environments, March 23-25, 1992, Paderborn, Germany.
- Chair, ISO TC184/SC4-IEC TC3 Joint Working Group (JWG9) for Electrical/Electronic Product Data Exchange, 1991-1993.
- DARPA Principal Investigators Advisory Panel, Information Systems Technology, 1990-1994
- Review team member for academic and research programs in microelectronics at the Microelectronics Research Center, Iowa State University, 1989.
- CAD Framework Initiative: Interim Steering Committee, 1988-1989; Board of Directors, 1989-1992; Treasurer, 1989-1992; Chair, Technical Coordinating Committee, 1989-1990.
- Member, IEC TC3, WG11, 1990-1991.
- Member, Working Group 2, IEC Technical Committee TC3, and IEEE SCC 11.9, developing IEEE Standard 91-1984, "Explanation of Logic Symbols," 1982-1985.

Civic Activities:

- Elected to Eanes Independent School District Board of Trustees, 1986-1997; President, 1987-1990, 1996-97.
- Texas Association of School Boards Finance Committee, 1989-1994; Tax Restructuring Committee, 1990.
- Citizens Advisory Committee, *Westlake Picayune*, 1988-90.
- Advisory Committee for Electric Power Distribution, City of West Lake Hills, 1987-1990.
- Capital Area Easter Seal Rehabilitation Center Advisory Board, 1985-1986, Telethon Committee, 1986.

8.2 Publications

Books, Contributions to Books, Published Notes, and Standards:

- *Electronic Design Automation Frameworks—When Will the Promise Be Realized?*, North-Holland, Amsterdam, 1992 (editor and contributor).
- ISO 10303 Standard for Product Data Exchange, Parts 103 (Electrical Interconnectivity), 212 (Electrotechnical Plants), 210 (Printed Circuit Assembly Design and Manufacture), and 211 (PCA Test and Logistics); editor and technical contributor, 1991-1993.

- "An Introduction to CAD Framework Technology," Published notes for DAC Tutorial, 1991 Design Automation Conference, June 21, 1991.
- "NAVSTAR Global Position System, A User's Approach to Understanding," published notes for IEEE Continuing Education Course No. 1125 (1982), with P. S. Noe and J. H. Painter.
- *Traffic Control Systems Handbook*, Chapter 8, "Communications Concepts," Federal Highway Administration, 1976.
- *Fundamentals of Digital Systems Design*, Prentice-Hall, 1973.
- "Supplementary Information for Computer Engineering Program Evaluators," IEEE Manual for Program Evaluators on EAC Accreditation Teams, IEEE Educational Activities Board, May 1987.
- "ABET/EAC Program Criteria for Computer Engineering and Similarly Named Engineering Programs," contributor, 1985-87.
- "Graphic Symbols for Logic Devices," ANSI/IEEE Standard 91-1982, (co-author), IEEE Standards Office, New York, March 1982.
- "The NAVSTAR Global Positioning System, A User's Approach to Understanding." Produced by ALTAIR Corp., College Station, Texas. With P.S. Noe and John H. Painter. 1979 to 1985.

Refereed Papers and Published Research Reports:

- "Report of Board on Assessment of NIST Programs, (editor and contributor), National Research Council, Washington, DC, 1994, 1995, 1997, 1998, 1999.
- "An Algorithm for Identifying and Selecting the Prime Implicants of a Multiple-Output Boolean Function," with Sharon Perkins, *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, Vol. 7, No. 11, pp. 1215-1218, November, 1988.
- "A Signed Bit-Sequential Multiplier," with Noel Strader, IEEE Transactions on Computers, Vol. C-35, No. 10, pp. 896-901, October 1986.
- "VLSI CAD Research at MCC," invited paper published in the "D&T Research" section of the inaugural issue of *IEEE Design & Test of Computers*, pp. 104-107, November 1984.
- "Limitations on Carry Lookahead Networks," *IEEE Transactions on Computers*, Vol. C-33, No. 4, pp. 373-374, April 1984.
- "A VLSI-based VO Formatting Device," with S. White and N. Strader, *IEEE Transactions on Computers*, Vol. C-33, No. 2, pp. 140-149, February 1984.
- "A Canonical Bit-Serial Multiplier," with Noel Strader, *IEEE Transactions on Computers*, August 1982, pp. 791-795.
- "Communication Systems for Distribution Automation and Load Management: Results of EPRI/DOE Research," with W. E. Blair, *IEEE Transactions on Power Apparatus and Systems*, July 1982, pp. 1888-1893.

- "Field Demonstrations of Communication Systems for Distribution Automation," Department of Energy Report NBB-0012, June 1982.
- "Field Demonstrations of Communication Systems for Distribution Automation," Electric Power Research Institute Report EL-1860, March 1982.
- "Optimum State Assignment for the D Flip-flop," with Phil Noe, *IEEE Transactions on Computers*, August 1977, pp. 757-764.
- "A New Technique for the Fast Minimization of Switching Functions," with Noe, McKinney, and Pooch, *IEEE Transactions on Computers*, Vol. C-26, No. 8, pp. 757-764, August 1977.
- "On the Number of Distinct State Assignments for a Sequential Machine," with Phil Noe, *IEEE Transactions on Computers*, January 1977, pp. 73-75.
- "MNR – A Fast New Boolean Function Minimization Algorithm," with Noe, McKinney, and Pooch, *TEES Technical Bulletin*, pp. 21-28, January 1975.
- "Programmed Logic Arrays," *New Logic Notebook*, Vol. 1, No. 2, pp. 1-33, October 1974.
- "Comments on 'Weighting Method for the Determination of the Irredundant Set of Prime Implicants'," with Noe and Suraratrungsi, *IEEE Transactions on Computers*, Vol. C-23, No. 6, pg. 646, June 1974.
- "A Modification to the SHR-Optimal State Assignment Procedure," with Noe*, IEEE Transactions on Computers*, Vol. C-23, No. 3, pp. 327-329, March 1974.
- "Use of the Voice to Control Machines," with Newell, Sherwood, and Edwards, *TEES Technical Bulletin*, pp. 4-11, January 1972.
- "Terminal-Oriented Systems," (Contributor), *Computer*, May-June, 1971.
- "A Simple Postcorrection for Nonrestoring Division," *IEEE Transactions on Computers*, Vol. C-20, No. 2, pp. 213-214.
- "Computer-Oriented Electrical Engineering Experiments: 1969-1970," (Contributor), *Cosine Committee Publication*, December 1970.
- "Coherent Time Averaging Revisited: Comments and Cautions," *Medical Research Engineering*, Vol. 9, No. 4, pp. 8-10, September 1970.
- "Serial Binary-to-Decimal and Decimal-to Binary Conversion," *IEEE Transactions on Computers*, Vol. C-l9, No. 9, pp. 808-812, September 1970.
- "Serialization of Class Design Projects," *Engineering Education*, November 1970, pp. 88-89.
- "Quantitative Method to Measure the Relationship between Prosthetic Gait and the Forces Produced at the Stump-Socket Interface," with Leavitt, et. al., *American Journal of Physical Medicine*, Vol. 49, No. 3, pp. 192-203, June 1970.
- "Computer Analysis of Data Obtained from an Instrumented Prosthetic Leg," with Leavitt, Peterson, and Canzoneri (Baylor College of Medicine), *Computer Programs in Biomedicine*, Vol. 1, No. 1, pp. 36-46, January 1970.

- "Comparison of Coherent Averaging Techniques for Repetitive Biological Signals," *Medical Research Engineering*, Vol. 8, No. 4, pp. 22-26, September 1969.
- "The Design of Optimal Convolutional Filters via Linear Programming," *IEEE Transactions on Geoscience Electronics*, Vol. GE-7, No. 3, pp. 142-145, July 1969.
- "A Digital System for Enhancing the Fetal ECG," *IEEE Transactions on Biomedical Electronics*, Vol. BME-016, No. 1, pp. 80-86.
- "Digital Signal Enhancement of the Fetal ECG," *American Journal of Obstetrics and Gynecology*, Vol. 102, No. 4, pp. 549-555, October 1968.

Conference Papers and Other Presentations:

- "The Role of the NIST Electrical and Electronics Engineering Laboratory," Invited Testimony before the Subcommittee on Science and Technology, U.S. House of Representatives, 1996.
- "Introduction to the National Technology Roadmap for Semiconductors," National Institute for Standards and Technology, Washington, DC, May 8, 1995.
- "Application Specific Electronic Modules (ASEM) CAD/CAE/CAM Interface Specification Alliance, 1994 IEEE Multi-Chip Module Conference, March 15-17, 1994, Santa Cruz, CA. With Drake, *et al.*
- "Standardization – The Key to Enterprise Integration," MCC Enterprise Integration Workshop, Austin, TX, July 18, 1992.
- "High-Speed Computer Arithmetic," Pettit Chair Seminar, Georgia Institute of Technology School of Electrical Engineering, April 6, 1992.
- "ECAD Frameworks – When Will the Promise be Realized?" Opening Address, 1992 IFIPS EDAF Workshop, Paderborn, Germany, March 23, 1992.
- "If Concurrent Engineering is the Answer, What's the Question?" Invited presentation at the Frontiers in Education Conference, Purdue University, September 21, 1991.
- "Concurrent Engineering for Electronics," invited presentation at the First Forum on Concurrent Engineering," Paris, September 19, 1991.
- "Formal versus Informal Standards in Software Development," Invited Presentation to the Workshop on the Portable Common Interface Standard, London, April 30, 1991.
- "Overview of U.S. Product Standards Activities," DARPA Principal Investigators Workshop, Salt Lake City, Utah, March 10-11, 1991.
- "CAD Framework Technology and the CAD Framework Initiative," Invited Keynote Presentation to INTERNEPCON, Tokyo, January 23, 1991.
- "Conformance Testing of CAD Interfaces," with R. Reed and N. Kenagy, IFIPS Workshop on Design Environments, Charlottesville, VA, November 25-27, 1990.
- "Standards for Analog CAD," Workshop on Analog Circuit Engineering, Research Triangle, NC, October 2, 1990.

- "The MCC CAD Framework Laboratory," DARPA Principal Investigators Workshop, Chapel Hill, NC, October 3-5, 1990.
- "The Role of the School Attorney," Texas Association of School Boards Convention, Houston, TX, September 22, 1990.
- "The CFI and Technology CAD," Invited Presentation at TCAD Workshop, Semiconductor Research Corporation, Research Triangle, NC, January 10, 1990.
- "The MCC CAD Framework Laboratory," IEEE Computer Society Chapter Meeting, Austin, TX, December 13, 1989; also presented at the 1990 NCR Conference on Tools and Methods for Design of Complex Electronic Systems, MCC, Austin, TX, January 23, 1990.
- "CAD Framework Standardization and the CAD Framework Initiative," Invited Presentation to the Information Processing Society of Japan, Special Interest Group on Design Automation, Tokyo, December 1989.
- "Introduction to the CAD Framework Initiative," Invited Presentation to the Third European EDIF Forum, Bonn, West Germany, October 12, 1989.
- "VLSI CAD Research at MCC," Invited Seminar presented at Iowa State University (January 1988) and the University of Texas at Austin (February 1988).
- "Career Goals in Electrical and Computer Engineering," Invited Presentation to Eta Kappa Nu Chapter at Texas A&M University, December 1987.
- "Object-Oriented Databases for CAD," Invited Presentation at the IEEE Committee on Computer-Aided Network Design (CANDE) Workshop, Lakeway, TX, November, 1986.
- "DOSS: A Storage System for Design Data," with Weiss, Rotzell, and Goldfein, 23rd ACM/IEEE Design Automation Conference, Las Vegas, June 1986.
- "Automating the Generation of Interactive Interfaces," with Hammer, et. al., 23rd ACM/IEEE Design Automation Conference, Las Vegas, June 1986.
- "Managing Research in the MCC Environment," University of Texas at San Antonio Graduate Seminar Series, May 1986.
- "VLSI CAD Research at MCC," 1984 South Central Regional ACM Conference, Austin, TX, November 17, 1984; also presented at the Berkeley Electrical Engineering Graduate Seminar Series, Berkeley, CA, October 1, 1984; and to the Central Texas Section of the IEEE, Austin, TX, October 11, 1984.
- "Electronic CAD: Today and Tomorrow," Southwest CAD/CAM Conference, Austin, TX, September 20, 1984.
- "Communications Options for Distribution Automation," Invited Presentation at Transmission & Distribution EXPO, Atlanta, December 13,1982; portions reprinted in "T&D Expo Blends Theory And Practice," *Transmission & Distribution*, February 1983, pp. 20-24.
- "Comparative Results for GPS, Omega, and LORAN Marine Navigation," Proceedings of the 1982 National Telecommunications Conference Galveston, TX., November 7-10, 1982. With P.S. Noe.

- "Statistical Analysis of GPS Marine Navigation Data," with Noe, Painter, and Lotz, PLANS'82 Conference, Atlantic City, NJ, December 1982.
- "New Comparisons Between C/A GPS and Other Marine Navaids," with Noe and Painter, National Telecommunications Conference, New Orleans, LA, December 1981.
- "Communication Systems for Distribution Automation and Load Management: Results of EPRI/ DOE Research," with W.E. Blair, EEE/PES Conference and Exposition on Overhead and Underground Transmission and Distribution, Minneapolis, September 23, 1981.
- "A Critique of Distribution Automation Research," Invited Closing Address at EPRI/DOE Seminars on Communication Systems for Distribution Automation and Load Management, Atlanta (June 4, 1981) and Denver (June 18, 1981).
- "NAVSTAR-A New Star on the Horizon," with Noe and Painter, IEEE Region V Conference, San Antonio, Texas, April 22, 1980.
- "The GPS Navigator," with Noe and Painter, Joint Applications in Instrumentation, Control, and Computing Conference, Clear Lake, Texas, March 13-14, 1980.
- "The C/A Code GPS Receiver at Sea," with Phil Noe and John Painter, IEEE Position Location and Navigation Symposium, Atlantic City, NJ, December 8-11, 1980.
- "Evaluating GPS Performance in the Marine Environment," with Noe and Painter, National Telecommunications Conference, Houston, Texas, December 3, 1980.
- "A Navigation Algorithm for the Single Channel Low-Cost GPS Receiver." Proceedings of the Third Digital Avionics Conference, Fort Worth, Texas, November, 1979. With H. Parsiani and P.S. Noe.
- "An AM9511/8080 Processor System for Use in Digital Avionics." Proceedings of the Third Digital Avionics Conference, Fort Worth, Texas, November, 1979. With A. J. Brown and P.S. Noe.
- "Low Cost Navstar/GPS Receiver/Microprocessor Floating Point Design," IEEE 1979 National Aerospace and Electronics Conference, May 16-18, Dayton, OH. With Phil Noe.
- "Improving Volumetric Intrusion Security System Reliability Through The Use of a Digital Processing Technique," 1974 Carnahan and International Crime Countermeasures Conference, April 16-19, 1974. Lexington, KY. With Joel N. Holyoak and Philip S. Noe.
- "A Color CRT Image Display System," 1973 SID International Symposium Digest of Technical Papers, May 15-17, 173. With Frank Bruns and John Schell.
- "The Design of Digital Filters for Seismic Data Analysis vie Linear Programming," 21st Southwestern IEEE Conference and Exhibition Record, 1969. With Ralph Cavin and Clifford Ray.

8.3 Cases In Which I Have Testified At Trial, Hearing, Or By Deposition Within The Preceding Four Years

PARTIES	DISTRICT	DIVISION	CASE NUMBER	TESTIMONY
SynQor v. Artesyn/Astec, *et al.*	Eastern	TX	Civil Action No. 2:07-cv-497-TJW-CE	Deposition and Trial
SanDisk v. Phison Electronics Corp., *et al.*	Western	WI	Cases No. 07-C-0605-C and 07-C-0607-C	Deposition
Bright Response, L.L.C. v. Google, Inc, *et al.*	Eastern	TX	Civil Action No. 2:07-CV-00371-CE	Deposition and Trial
In the Matter of CERTAIN MLC FLASH MEMORY DEVICES AND PRODUCTS CONTAINING SAME	ITC	N/A	Inv. No. 337-TA-683	Deposition and Hearing
Chamberlain and Johnson Controls v. Lear Corporation	Northern Illinois	Eastern	CIVIL ACTION NO. 1:05-CV-3449	Deposition
Datatreasury Corp. v. Bank of America	Eastern	TX	Civil Action No: 2-05CV-00292-DF	Deposition
Chamberlain v. GMI, Overhead, and Rhine	Northern	IL	Civil Action No.: 08-cv-3806	Deposition
nXn v. Google and Yahoo!	Eastern	TX	Civil Action No. 2:07-CV-480 RRR	Depositions
Function Media v. Google and Yahoo!	Eastern	TX	Civil Action No. 2007-cv-279	Deposition and Trial
i4i Limited Partnership v. Microsoft, Inc.	Eastern	TX	CIVIL ACTION 6:07-CV-113-LED	Deposition and Trial
PalTalk Holdings v. Microsoft, Inc.	Eastern	TX	Civil Action No. 2:06cv367-DF	Deposition and Trial
Via Licensing v. NetGear, *et. al*	Western	Wisconsin	Case No. 07-C-0710-C	Deposition

PARTIES	DISTRICT	DIVISION	CASE NUMBER	TESTIMONY
In the Matter of CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, MEMORY CARDS, AND MEDIA PLAYERS AND PRODUCTS CONTAINING SAME	ITC	N/A	Inv. No. 337-TA-619	Deposition and Hearing
Flash Seats v. Paciolan	Delaware	N/A	C.A. No. 07-575 (JJF)	Deposition
Presentation Specialist Technologies v. FedEx	Eastern	TX	Civil Action no. 5:07-cv-038-LED-CMA	Deposition
PlanView v. CA	Austin TX	State Court	Cause No. D-1-GN-06-001382	Deposition
Applied Interact v. Continental Airlines	Eastern	VA	Civil Action No. 2:07-cv-00341 (HCM)(TEM)	Deposition
O2 Micro v. Rohm	Eastern	TX	Case No. 2:05-cv-00211 TJW-CE	Deposition and Trial
Computer Acceleration v. Microsoft	Eastern	TX	Case No. 9:06-CV-140	Deposition and Trial
Transcore v. ETC	Northern	TX	Civil Action No. 3:05-CV-2316 K	Hearing
Tinkers & Chance v. Leapfrog	Eastern	TX	Civil Action No. 2-05-CV-369 TJW	Deposition
Orion v. Hyundai	Eastern	TX	Civil Action No. 6:05-CV322-LED	Deposition and Trial
O2 Micro v. MPS	Northern	CA	Case No. C.04cv2000	Deposition and Trial
Forgent v. EchoStar	Eastern	TX	Consolidated C.A. No.: 6:06-208	Deposition and Trial
SanDisk v. STMicro	ITC	N/A	Investigation No 337-TA-560	Deposition
Chamberlain v. GMI, Overhead, and Rhine	Northern	Illinois	Civil Action No.: 08-cv-3806	Deposition
Function Media v. Google and Yahoo!	Eastern	Texas	Civil Action No. 2007-cv-279	Deposition
i4i Limited Partnership v. Microsoft, Inc.	Eastern	TX	CIVIL ACTION 6:07-CV-113-LED	Deposition and Trial

PARTIES	DISTRICT	DIVISION	CASE NUMBER	TESTIMONY
PalTalk Holdings v. Microsoft, Inc.	Eastern	TX	Civil Action No. 2:06cv367-DF	Deposition and Trial
Via Licensing v. NetGear, *et. al*	Western	Wisconsin	Case No. 07-C-0710-C	Deposition
In the Matter of CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, MEMORY CARDS, AND MEDIA PLAYERS AND PRODUCTS CONTAINING SAME	ITC	N/A	Inv. No. 337-TA-619	Deposition and Hearing
Flash Seats v. Paciolan	Delaware	N/A	C.A. No. 07-575 (JJF)	Deposition
Presentation Specialist Technologies v. FedEx	Eastern	TX	Civil Action no. 5:07-cv-038-LED-CMA	Deposition
PlanView v. CA	Austin TX	State Court	Cause No. D-1-GN-06-001382	Deposition
Applied Interact v. Continental Airlines	Eastern	VA	Civil Action No. 2:07-cv-00341 (HCM)(TEM)	Deposition
O2 Micro v. Rohm	Eastern	TX	Case No. 2:05-cv-00211 TJW-CE	Deposition and Trial
Computer Acceleration v. Microsoft	Eastern	TX	Case No. 9:06-CV-140	Deposition and Trial
Transcore v. ETC	Northern	TX	Civil Action No. 3:05-CV-2316 K	Hearing
Tinkers & Chance v. Leapfrog	Eastern	TX	Civil Action No. 2-05-CV-369 TJW	Deposition
Orion v. Hyundai	Eastern	TX	Civil Action No. 6:05-CV322-LED	Deposition and Trial
O2 Micro v. MPS	Northern	CA	Case No. C.04cv2000	Deposition and Trial
Forgent v. EchoStar	Eastern	TX	Consolidated C.A. No.: 6:06-208	Deposition and Trial
AutoBytel v. Dealix	Western	Texas	Civil Action No. 2:04-cv-338-LED	Deposition
SanDisk v. STMicro	ITC	N/A	Investigation No 337-TA-560	Deposition

PARTIES	DISTRICT	DIVISION	CASE NUMBER	TESTIMONY
Lectrolarm Custom Systems, Inc. v. Vicon Industies, Inc. *et al.*	Western	Tennessee	Civil Action No. 03-2330	Deposition
Gobeli Research, Ltd. V. Apple Computer Inc. and Sun Microsystems, Inc.	Eastern	Texas	2:04-CV-149 (TJW)	Deposition
O2 Micro v. BiTek	Eastern	Texas	2:04-CV-32-TJW	Depositions and Trials
Tantivy v. Lucent	Eastern	Texas	2:04-CV-79-TJW	Deposition
TiVo v. EchoStar	Eastern	Texas	2:04-CV-1-DF	Deposition, Trial, and Hearing
O2 Micro v. Taiwan Semiconductor	Eastern	Texas	2:03-CV-007 (TJW)	Deposition

EXPERT REPORT OF DR. V. THOMAS RHYNE
EXHIBIT B – MATERIALS CONSIDERED

Hyundai USA website, including www.hyundaiusa.com, www.hyundaiusa.com/thinkaboutit/, and www.hyundaigenesis.com
HTML publicly available corresponding to the Hyundai USA website
United States Patent No. 7,606,739
United States Patent No. 7,606,739 file history
United States Patent No. 5,615,342
United States Patent No. 5,615,342 file history
Brief Doc77.pdf
Brief Doc77-1.pdf
Claim Construction Order (Jan. 5, 2011)
Claim Construction Order (Dec. 15, 2005)
CWC Reply Markman Brief- Doc84.pdf
CWC Responsive Markman Brief RE 342 Doc79.pdf
CWC Responsive Markman Brief RE 342 Doc79-1.pdf
Exh B Doc67-2.pdf
Exh B Doc67-2-1.pdf
Exh C Doc67-3.pdf
Exh C Doc67-3-1.pdf
Exh D Doc67-4.pdf
Exh D Doc67-4-1.pdf
Exh E Doc67-5.pdf
Exh E Doc67-5-1.pdf
Exh F Doc67-6.pdf
Exh F Doc67-6-1.pdf
Exhibit A- Doc77-1.pdf
Exhibit A- Doc77-1-1.pdf
Exhibit B- Doc77-2.pdf
Exhibit B- Doc77-2-1.pdf
Exhibit C- Doc77-3.pdf
Exhibit C- Doc77-3-1.pdf
Dilley et al., Global Distributed Content Delivery, IEEE Internet Computing (Sept.-Oct. 2002) pages 50-58
HMA Markman Brief Doc67.pdf
HMA Markman Brief Doc67-1.pdf
HMA Reply in Supp of Markman Brief- Doc82.pdf
HMA Reply in Supp of Markman Brief- Doc82-1.pdf
Infringement Contentions (1/12/10)
Infringement Contentions (11/16/10)
Infringement Contentions (2/4/11)
Joint Claim Const Chart- Doc89-1.pdf
Signed Protective Order for CWC II 09102010.pdf
1000miles.avi
2008_sonata_ad.avi

elantratouring.avi
Genesis_Coupe.avi
sonata2009.avi
tscc_video_codec.exe
HMA_SC001-720
HMA_SC00721-896
Deposition (rough) of Robert McLeod
Deposition (rough) of Duy Ton
American Heritage Dictionary excerpt (“product”)
All documents or materials cited or referred to in my expert report