IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

PROGME CORPORATION
208 Clair Hill Drive
Rochester Hills, MI 48309,

      Plaintiff

 v.

COMCAST CABLE COMMUNICATIONS, LLC
1701 JFK Boulevard
Philadelphia, Pennsylvania 19103

NBCUNIVERSAL MEDIA, LLC
30 Rockefeller Plaza
New York, NY 10112,

    Defendants

Civil Action No. 2:15-cv-13935

District Judge Stephen J. Murphy, III

Magistrate Judge Michael J. Hluchaniuk

JURY TRIAL DEMANDED

FIRST AMENDED COMPLAINT
FOR PATENT INFRINGEMENT

Plaintiff Progme Corporation ("Progme") files this **FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT** against Defendant **COMCAST CABLE COMMUNICATIONS, LLC** ("Comcast") and Defendant **NBCUNIVERSAL MEDIA, LLC** ("NBCU") for infringement of U.S. Patent No. 8,713,425 ("'425 Patent"). A copy of the '425 Patent is attached as **Exhibit A**.

THE PARTIES

1. Progme is a corporation existing under the laws of Michigan with its principal place of business at 208 Clair Hill Drive, Rochester Hills, MI 48309.

2. On information and belief, Defendant Comcast is a limited liability company existing under the laws of Delaware with its principal place of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103. Defendant Comcast Cable Communications, LLC is a wholly owned subsidiary and operating unit of Comcast Corporation. Comcast Cable

Communications, LLC can be served with process through its registered agent Comcast

Capital Corporation at 1201 N. Market Street, Suite 1000, Wilmington, Delaware 19801.

3.   On information and belief, Defendant NBCU is a limited liability company existing under

the laws of Delaware with its principal place of business at 30 Rockefeller Plaza, New

York, New York 10112-0015. The sole member and sole owner of NBCUniversal Media,

LLC is NBCUniversal, LLC, a holding company and a limited liability company

organized under the laws of the state of Delaware with its principal place of business at 30

Rockefeller Plaza, New York, New York 10112-0015. NBCUniversal Media, LLC is a

wholly owned subsidiary and operating unit of Comcast Corporation. NBCUniversal

Media, LLC can be served with process through its registered agent The Corporation Trust

Company at Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801.

COMCAST'S ACQUISITION OF NBCU

4.   The Federal Communications Commission approved Defendant Comcast's acquisition of

Defendant NBCU in FCC MB Dkt. 10-56. In its order approving the acquisition, the FCC

imposed certain conditions regarding programming and program signals representative of

predetermined program material to be transmitted by respective means for transmitting

program signals of Defendant Comcast and Defendant NBCU (hereinafter termed

"programming conditions").

5.   The relevance of said programming conditions to the instant Amended Complaint is that

it highlights the legal/regulatory necessity of Defendant Comcast to direct and control

Defendant NBCU's means for transmitting program signals representative of

predetermined program material to ensure compliance with said programming conditions.

6. In its Order approving Defendant Comcast's acquisition of Defendant NBCU and

    specifying said programming conditions, the FCC defined "C-NBCU Programmer" to

    mean Defendant Comcast, Defendants Comcast and NBCU combined, their affiliates and

    any entity for which Defendant Comcast or Defendants Comcast and NBCU combined

    manages or controls the licensing of video programming and/or any local broadcast

    television station on whose behalf Defendant Comcast or Defendant NBCU negotiates

    retransmission consent.

7. Said programming conditions generally require Defendant Comcast to indiscriminately

    provide access to its programming including programming of the acquired Defendant

    NBCU ("comparable programming") to competitors, to protect the development of online

    competition, to provide indiscriminate competitor access to Defendant Comcast's

    including the acquired Defendant NBCU's distribution facilities and to protect diversity

    and local concerns.

8. In its Order approving Defendant Comcast's acquisition of Defendant NBCU and

    specifying said programming conditions, the FCC defined "comparable programming" to

    mean video programming that is reasonably similar in kind and amount and, for purposes

    of determining whether video programming constitutes comparable programming, the

    parties and an arbitrator shall consider i) the number of channels and.or shows and ii) the

    similarity of value of the video programming as evidenced by ratings, affiliate fees and/or

    advertising revenues and the time elapsed since the programming was first distributed.

9. In its Order approving Defendant Comcast's acquisition of Defendant NBCU and

    specifying said programming conditions, the FCC defined the following categories of

    video programming as not comparable in terms of said programming conditions:

i) programming made available for presentation a day or more after it is first presented to viewers is not comparable to programming made available for presentation the first day; ii) sports programming is not comparable to non-sports programming; iii) local news progrmming is not comparable to programming that is not local news programming; iv) prior season programming is not comparable to originals, first-run programming; v) broadcast programming is not comparable to cable programming; vi) childrens (12 years or younger) programming is not comparable to non-children programming; vii) films are not comparable to non-film programming and viii) films less than 5 years from initial theatrical distribution are not comparable to films over 5 years from initial theatrical distribution.

10. Said programming conditions further provided for U.S. Department of Justice enforcement and arbitration means to resolve any licensing dispute that may arise between the combined Defendants Comcast and NBCU and an online video distributor.

11. Said programming conditions were to remain in effect for seven (7) years and remain in effect at present and during all times relevant to the instant Amended Complaint.

JOINDER

12. Joinder of Defendants Comcast and NBCU is proper under 35 U.S.C. § 299 because, as alleged in **COUNT I-VI**, Defendants Comcast and NBCU are liable for patent infringement arising out of the same series of transactions or occurrences related to the use of the same method and questions of fact common to both Defendants will arise in the action.

13. Further, numerous rights to relief are asserted against Defendants Comcast and NBCU jointly, severally, or in the alternative with respect to or arising out of the same transaction, occurrence, or series of transactions or occurrences relating to the making, using, importing into the United States, offering to sell or selling of the same accused method and/or process.

14. Said joint, several or alternative liability between Defendants Comcast and NBCU arises primarily due to Defendant Comcast directing and controlling, as a direct infringer, the activities infringing the '425 patent including the infringing activities committed by Defendant NBCU.

15. Indeed, said programming conditions require Defendant Comcast to direct and control certain activities performed by Defendant NBCU to avoid Defendant Comcast and/or Defendant NBCU from violating any one or more of said programming conditions.

16. Said programming conditions require Defendant Comcast to direct and control certain activities performed by Defendant NBCU which infringe said '425 Patent.

17. Said certain activities performed by Defendant NBCU directed and controlled by Defendant Comcast include transmitting via means for transmitting program signals program signals representative of predetermined program material in conjunction with program-related data comprising print() or println() statements of the PrintWriter method.

18. Said certain activities performed by Defendant NBCU directed and controlled by Defendant Comcast further include encoding said program signals representative of predetermined program material to transmit said print() or println() statements of the PrintWriter method in conjuction with transmission of program signals representative of predetermined program material.

JURISDICTION AND VENUE

19.   This is an action for patent infringement arising under the Patent Laws of the

   United States, 35 U.S.C. § 1, et seq. including 35 U.S.C. § 271.

20.   Subject matter jurisdiction is proper in this Court pursuant to 28 U.S.C. §§ 1331

   and 1338(a).

21.   Venue in this judicial district is proper under 28 U.S.C. §§ 1391 including 28 U.S.C. §

   1391 (b) and (c) and 28 U.S.C. §§ 1400(b).

22.   This Court has personal jurisdiction over Defendants Comcast and NBCU. These

   Defendants regularly conduct and transact business in and within this judicial district itself

   and through one or more subsidiaries, affiliates, partners or other related parties and have

   committed and continue to commit acts of patent infringement in this judicial district.

23.   Defendants Comcast and NBCU engage in persistent courses of conduct and derive

   substantial revenue from products and/or services provided to individuals in this judicial

   district, purposefully establishing substantial, systematic, and continuous contacts within

   this judicial district to reasonably expect to be haled into court here and/or to be subjected

   to Michigan's long arm statute within this judicial district.

24.   In addition, venue is proper because Defendants Comcast and NBCU, respectively,

   provide cable and broadcast television service to people within this judicial district.

25.   On information and belief, Defendant Comcast currently makes available for live

   streaming to people within this judicial district the following programming services: BBC

   World News; beIn Sports and beIn ~ Sports; Disney including Disney Channel, Disney

   Junior, Disney XD, FX and FXX; ESPN including ESPN, ESPN2, ESPN3, ESPNews,

   ESPN Deportes and ESPNU; Fox including Fox News, Fox Business, Fox Sports 1 and

Big Ten Network; Nat Geo including National Geographic Channel and Nat Geo Wild;

NBC Sports Live Extra, NBC Sports Talk Radio, Universal Sports, NHL Network;

NBCUniversal including CNBC, MSNBC, Golf Channel, Esquire TV, E!, Sprout, USA

Network, Syfy, Oxygen, Bravo, Mun2 and Deportes Telemundo en Vivo; A&E Networks

including A&E and History Channel; Scripps including HGTV, Food Network, Cooking

Channel, Travel Channel and DlY Network; Turner Broadcasting including CNN, HLN

and truTV and Starz.

26. On information and belief, Defendant NBCU currently makes available for live streaming

to people in this judicial district the following programming services: CNBC, MSNBC,

NBC Sports, NBC Sports Radio, Golf Channel, Universal Sports Network, Esquire TV,

E!, Sprout, USA Network, Syfy, Oxygen, Bravo and Deportes Telemundo en Vivo.

27. Further, another basis for venue in this judicial district against Defendants Comcast and

NBCU is based on contact with and operation of a certain cloud-based data center hosted

by Amazon Web Services (AWS) within this judicial district.

28. Specifically, venue is proper against Defendant Comcast based on its operation and/or

use of a data center, "365 CLOUD STORAGE", hosted by AWS within this judicial

district, DT1 Data Center at 24660 Lahser Road, Southfield, MI 48034.

29. Said DT1 Data Center is one of several data centers operated by AWS connecting major

cities across the U.S. in an integrated, redundant and fault-tolerant AWS cloud network

wherein if one of said data centers, such as one located outside of Michigan, fails then

another data center, such as the DT1 Data Center within this judicial district, takes over

and provides cloud processing and transmission services on behalf of said failed data

center in an integrated, redundant, fault-tolerant and "geo-caching" architecture.

30. Venue is also proper against Defendant NBCU based on its operation and/or use of at

least one data center in said AWS cloud network and consequential use of the DT1 Data

Center in this judicial district for cloud-based processing and transmission in said

integrated, redundant, fault-tolerant and "geo-caching" architecture.

U.S. PATENT 8,713,425

31. On April 29, 2014, the U.S. Patent and Trademark Office duly and legally issued

U.S. Patent No. 8,713,425 ("the '425 Patent"), entitled "AUDIO/VIDEO PROGRAM-

RELATED HYPERLINK PRINTER", to Progme assignee after a full and fair

examination.

32. As indicated in the appended **Exhibit B**, Progme became the owner of all rights, title and

interest in and to the '425 Patent by recorded assignment and possesses all rights of

recovery under the '425 Patent, including the right to sue and recover damages for all

infringements. Since the date of said assignment, Progme has been and remains the sole

owner of said rights, title and interest in and to the '425 Patent.

33. The '425 Patent discloses and claims, in part, a method for generating an hyperlink

address string structured as a PrintWriter method, the hyperlink address string addressed

to a resource in the initial array position of a list in which resource identifiers uniquely

identifying resources corresponding to predetermined program material are arrayed, for

transmission in conjunction with program signals representative of predetermined program

material. See the '425 Patent at pg. 17, cols 37-39.

34. The '425 Patent further discloses and claims, in part, a predermined hyperlink address to

predetermined hyperlinked content comprising a resource identifer to identify i) a resource

from resources of threads performed in a Java Virtual Machine (JVM) and ii) an

application, in which certain thread objects belong or a resource consumer related to the resource belongs, executed in said JVM; a resource consumer for each thread using a resource in said JVM; a resource manager to manage resource usage wherein said resource identifier and resource manager are generated using Java language and registered resource managers are stored according to types and a resource allocation policy comprising calling a resource idenfier that is in an initial array position of a list in which resource identifiers uniquely identifying resources are arrayed or requesting an initial resource identifier that is first on an array in a resource identifiers list. See the '425 Patent at pg. 21, cols. 6-10, 12-14, 17-19, 26-38, 42-44, 50-52 and 59-63.

35.   After disclosing that said resource identifier is in said initial array position or said initial resource identifier is first on an array in a resource identifiers list, the '425 Patent discloses that said resource identifier identifies a request for dynamically generated information from a selected or specified servlet object of a plurality of instantiated servlet objects wherein said request is mapped by a thread designated to handle said request. See the ' 425 Patent at pg. 22, cols 1-56.

36.   It is well known by those skilled in the art that an URL pattern registered in a web.xml table maps a request for dynamically generated information from a selected or specified servlet object of a plurality of instantiated servlet objects to a servlet class designated to handle the request.

37.   The '425 Patent is valid and enforceable.

<div style="text-align:center">

COUNT I: DEFENDANTS COMCAST AND NBCU

INFRINGEMENT OF U.S. PATENT 8,713,425

</div>

38.   Plaintiff re-alleges paragraphs 1-37 as if fully set forth herein.

39.   Defendants Comcast and NBCU, jointly, severally or alternatively in their respective

cable television networks, services and transmission systems have been and are now

infringing, directly and indirectly by way of inducement and/or contributory infringement,

literally and/or under the doctrine of equivalents, the '425 Patent in this judicial district

and elsewhere.

40.   Defendants Comcast and NBCU deploy individually named servlets in their respective

cable television networks, services and transmission systems, each servlet defined by

certain Java code "open-sourced" at github.com. See https://github.com.

41. Said certain Java code comprises Comcast Message Bus or Cloud Message Bus code

(hereinafter termed "CMB code").

42. Said individually named servlets include: CNSControllerServlet of the

com.comcast.cns.controller.CNSControllerServlet servlet-class having url pattern / servlet

mapping, CNSControllerServlet of the com.comcast.cns.controller.CNSControllerServlet

servlet-class having a /CNS/* url-pattern servlet-mapping, CQSControllerServlet of the

com.comcast.cqs.controller.CQSControllerServlet servlet-class having url-pattern /

servlet-mapping, EndpointServlet of the

com.comcast.cmb.common.controller.EndpointServlet servlet-class having url pattern

/Endpoint/* servlet mapping, AdminServlet of the

com.comcast.cmb.common.controller.AdminServlet servlet-class having url pattern

/webui/* servlet mapping , CMBVisualizerServlet of the

com.comcast.cmb.common.controller.CMBVisualizerServlet having url pattern

/webui/cmbvisualizer/* servlet mapping, CNSUserPageServlet of the

com.comcast.cns.controller.CNSUserPageServlet servlet-class having url pattern

/webui/cnsuser/* servlet mapping, CQSUserPageServlet of the

com.comcast.cqs.controller.CQSUserPageServlet servlet-class having url pattern

/webui/cqsuser/* servlet mapping, UserLoginPageServlet of the

com.comcast.cmb.common.controller.UserLoginPageServlet servlet-class having url

pattern /webui/userlogin/* servlet mapping, UserPageServlet of the

com.comcast.cmb.common.controller.UserPageServlet servlet-class having url pattern

/webui/user/* servlet mapping, CNSSubscriptionPageServlet of the

com.comcast.cns.controller.CNSSubscriptionPageServlet servlet-class having url pattern

 webui/cnsuser/subscription/* servlet-mapping, CNSPublishToTopicPageServlet of the

 com.comcast.cns.controller.CNSPublishToTopicPageServlet servlet-class having url

 pattern /webui/cnsuser/publish/* servlet-mapping, CNSEditTopicDisplayNamePage of

 the com.comcast.cns.controller.CNSEditTopicDisplayNamePage servlet-class having url

 pattern /webui/cnsuser/editdisplayname/* servlet mapping,

 CNSEditTopicDeliveryPolicyPage of the

 com.comcast.cns.controller.CNSEditTopicDeliveryPolicyPage servlet-class having url

 pattern /webui/cnsuser/editdeliverypolicy/* servlet mapping,

 CNSEditSubscriptionDeliveryPolicyPage of the

 com.comcast.cns.controller.CNSEditSubscriptionDeliveryPolicyPage servlet class having

 url pattern /webui/cnsuser/subscription/editdeliverypolicy/* servlet mapping,

 CNSRawMessageDeliveryPolicyPage of the

 com.comcast.cns.controller.CNSRawMessageDeliveryPolicyPage servlet class having url

 pattern /webui/cnsuser/subscription/rawmessagedeliverypolicy/* servlet mapping,

 CNSTopicPermissionPage of the com.comcast.cns.controller.CNSTopicPermissionPage

servlet class having url pattern /webui/cnsuser/permission/*,

CNSTopicAddPermissionPage of the

com.comcast.cns.controller.CNSTopicAddPermissionPage servlet class having url

pattern /webui/cnsuser/addpermission/* servlet mapping,

CQSQueueMessagesPageServlet of the

com.comcast.cqs.controller.CQSQueueMessagesPageServlet servlet class having url

pattern /webui/cqsuser/message/* servlet mapping, CQSAddQueuePermissionPage of the

com.comcast.cqs.controller.CQSAddQueuePermissionPage servlet class having url

pattern /webui/cqsuser/addpermission/* servlet mapping, CQSQueuePermissionsPage of

the com.comcast.cqs.controller.CQSQueuePermissionsPage servlet class having url

pattern /webui/cqsuser/permissions/* servlet mapping, CNSWorkerStatePageServlet of

the com.comcast.cns.controller.CNSWorkerStatePageServlet servlet class having url

pattern /webui/cnsworkerstate/* servlet mapping, CQSAPIStatePageServlet of the

com.comcast.cqs.controller.CQSAPIStatePageServlet servlet class having url pattern

/webui/cqsapistate/* servlet mapping, CQSEditQueueAttributePage of the

com.comcast.cqs.controller.CQSEditQueueAttributePage servlet class having url pattern

/webui/cqsuser/editqueueattributes/* servlet mapping and CMBStatsServlet of the

com.comcast.cmb.common.controller.CMBStatsServlet servlet class having url pattern

/webui/cmbcallstats/* servlet mapping.

See https://github.com/Comcast/cmb/blob/master/config/WEB-INF-CNS/web.xml,

https://github.com/Comcast/cmb/blob/master/config/WEB-INF-CQS/web.xml and

https://github.com/Comcast/cmb/blob/master/WebContent/WEB-INF/web.xml.

43. Mapping a selected or specified instantiated servlet object is accomplished via matching a given servlet URL pattern contained in a request for dynamically generated information from a selected or specified servlet object to a servlet class designated to handle the request.

44. Several of said individually named servlets include Java code comprising at least one print() or println() statement of the PrintWriter method specifying an URL pattern (specified below) mapping a request for dynamically generated information to the servlet class designated to handle the request wherein said URL pattern is defined within said at least one print() or println() statement.

45.   Said individually named servlets comprise a set of instantiated servlet objects, one of which may be selected or specified by a web browser device to hyperlink to for printing to a device screen predetermined printable output of said selected or specified servlet object via a PrintWriter available for the servlet to use.

46. Said selected or specified servlet object comprises a servlet object in the initial array position of said set of instantiated servlet objects or a first servlet object in an array of instantiated servlet objects.

47. Said selected or specified servlet object of said set of instantiated servlet objects generates dynamically generated information via said PrintWriter available for servlet use.

48. Said dynamically generated information generated by said selected or specified servlet object comprises print() or println() statements of a PrintWriter method.

49. Through said selected or specified servlet object generating said print() or println() statements of a PrintWriter method, Defendant Comcast generates dynamically generated information via said statements contained in said CMB code.

50. By generating said print() or println() statements of a PrintWriter method contained in said CMB code, Defendant Comcast directly infringes the '425 Patent.

51. Said dynamically generated information generated from said selected or specified servlet object comprises AWS cloud network usage monitoring information such as performance and advertising metrics, web statistics and cost control information.

52. Said dynamically generated information generated from said selected or specified servlet object comprises cloud-based predetermined program material represented by program signals representative of said predetermined program material.

53. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have committed and continue to commit acts of infringement of the '425 Patent, directly and indirectly by way of inducement and/or contributory infringement, by marketing, leasing and/or selling a transmission service for transmitting and encoding program-related signals including said PrintWriter hyperlink address string in conjunction with program signals representative of predetermined program material.

54. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent, directly and indirectly by way of inducement and/or contributory infringement, by using "Request and Response parameters included in the one or more predetermined parameters defining the pre-defined printable output of the predetermined hyperlinked content included in the second attribute in the hyperlink address string [to] … encapsulate the data sent by the client, thereby allowing servlets to

14

report status information such as error". See the '425 Patent at pg. 14, cols. 62-67 – pg. 15, col. 1.

55. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent, directly and indirectly by way of inducement and/or contributory infringement, by using servlet hyperlinking and PrintWriter printing to generate dynamically generated information comprising "servlet-specific configuration data at initialization time … [allowing] different instances of the same servlet class to be initialized with different data, and be managed as differently named servlets … [wherein the] data provided at initialization time includes an area where each instance keeps its persistent instance-specific state ". See the '425 Patent at pg. 15, cols. 15-20.

56. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent, directly and indirectly by way of inducement and/or contributory infringement, by using servlet hyperlinking and PrintWriter printing to generate dynamically generated information comprising "arguments to an instantiated HttpServlet object through the [Java programming language] properties object" as "a set of 'name:value' pairs … [for] the system administrator … [to] 'customize' an HttpServlet for a particular server at a particular site … [to] pass the Httpservlet object site specific information about the network location of a database which stores documents that will be requested by client processors across the network or the amount of memory available in system buffers which will be used for processing the server administrator". See the '425 Patent at pg. 17, cols. 58-67 – pg. 18, cols. 1-3.

57. Via a selected or specified instantiated servlet object, Defendant Comcast generates print() or println() statements of the PrintWriter method to be transmitted in conjuction with program signals representative of predetermined program material by Defendant NBCU.

58. Defendant Comcast's generating said print() or println() statements of the PrintWriter method to be transmitted in conjuction with program signals representative of predetermined program material by Defendant NBCU directly infringes the '425 Patent.

59. By generating said print() or println() statements of the PrintWriter method to be transmitted in conjuction with program signals representative of predetermined program material by Defendant NBCU, Defendant Comcast directs and controls certain program signal transmission and encoding activities of Defendant NBCU that infringe the '425 Patent.

60. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory infringement, by said CMBStatsServlet generating and transmitting in conjunction with program signals representative of predetermined program material code documented in the following numbered sub-paragraphs, defining within a print() or println() statement having a out parameter of the PrintWriter method an URL pattern associated with a request for dynamically generated information wherein said URL pattern defined within said print() or println() statement maps to a servlet class designated to handle the request for dynamically generated information:

1) out.println("<p><img

src='/webui/cmbvisualizer/responsetimeimg?rs="+rs+"'></p>");

2) out.println("<h2 align='left'>Redis Response Time Percentiles</h2>");

out.println("<p><img

src='/webui/cmbvisualizer/responsetimeimg?redis=true'></p>");

3) out.println("<h2 align='left'>Cassandra Response Time Percentiles</h2>");

out.println("<p><img

src='/webui/cmbvisualizer/responsetimeimg?cassandra=true'></p>");

4) out.println("<p><img

src='/webui/cmbvisualizer/responsetimeimg?ac="+ac+"'></p>");

5) out.println("<h2 align='left'>API Call Mix</h2>");

out.println("<p><img src='/webui/cmbvisualizer/callcountimg'></p>"); and

6) out.println("<h2 align='left'>API Call Distribution</h2>");

out.println("<p><img src='/webui/cmbvisualizer/calldistributionimg'></p>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cmb/common/controller/
CMBStatsServlet.java.

61. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective
cable television networks, services and transmission systems have been and are now
infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19,
20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory
infringement, by said AdminServlet generating and transmitting in conjunction with
program signals representative of predetermined program material code documented in the
following numbered sub-paragraphs, defining within a print() or println() statement of the

17

PrintWriter method an URL pattern associated with a request for dynamically generated information wherein said URL pattern defined within said print() or println() statement maps to a servlet class designated to handle the request for dynamically generated information:

1) out.print("<form action=\"/webui\" method=POST>");

2) out.println("<form action=\"/"+response.encodeURL("webui")+"\" method=POST>");

3) out.println("<td><a

href='/webui/cnsuser?userId="+user.getUserId()+"'>CNS</td>"); and

4) out.println("<td><a

href='/webui/cqsuser?userId="+user.getUserId()+"'>CQS</td>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cmb/common/controller/ AdminServlet.java.

62. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory infringement, by said AdminServletBase generating and transmitting in conjunction with program signals representative of predetermined program material code documented in the following numbered sub-paragraphs, defining within a print() or println() statement of the PrintWriter method an URL pattern associated with a request for dynamically generated information wherein said URL pattern defined within said print() or println() statement maps to a servlet class designated to handle the request for dynamically generated information:

18

1) out.println("All Users" + " | ");

2) out.println("<a

   href='/webui/cnsuser?userId="+user.getUserId()+"'>"+user.getUserName()+"'s

   Topics" + " | ");

3) out.println("<a

   href='/webui/cqsuser?userId="+user.getUserId()+"'>"+user.getUserName()+"'s

   Queues" + " | ");

4) out.println("<a

   href='/webui/cnsuser?userId="+mainUser.getUserId()+"'>"+mainUser.getUserName(

)+"'s Topics" + " | ");

5) out.println("<a

   href='/webui/cqsuser?userId="+mainUser.getUserId()+"'>"+mainUser.getUserName(

)+"'s Queues" + " | ");

6) out.println("CNS Dashboard" + " | ");

7) out.println("CQS Dashboard" + " | ");

8) out.println("Stats" + " | ");

9) out.println("

   Topics" + " | ");

10) out.println("

   Queues" + " | "); and

11) out.println("<a

   href='/webui/userlogin?Logout=Logout'>logout</td></tr></table>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cmb/common/controller/ AdminServletBase.java.

63. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory infringement, by said CQSQueuePermissionsPage generating and transmitting in conjunction with program signals representative of predetermined program material code documented in the following numbered sub-paragraphs, defining within a print() or println() statement of the PrintWriter method an URL pattern associated with a request for dynamically generated information wherein said URL pattern defined within said print() or println() statement maps to a servlet class designated to handle the request for dynamically generated information:

1) out.print("<form action=\"/webui/cqsuser/permissions/?userId="+user.getUserId()+"&queueUrl="+queue Url+"\" method=POST>");

2) out.println("<p>Add permission</p>");

3) out.println("<h5 style='text-align:center;'>ADMIN HOME"); and

20

4) out.println("BACK TO QUEUE</h5>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cqs/controller/ CQSQueuePermissionsPage.java.

64. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory infringement, by said CQSUserPageServlet generating and transmitting in conjunction with program signals representative of predetermined program material code documented in the following numbered sub-paragraphs, defining within a print() or println() statement of the PrintWriter method an URL pattern associated with a request for dynamically generated information wherein said URL pattern defined within said print() or println() statement maps to a servlet class designated to handle the request for dynamically generated information:

1) out.println("<tr><form action=\"/webui/cqsuser?userId="+user.getUserId() + "\" method=POST>");

2) out.println("<tr><form action=\"/webui/cqsuser?userId="+user.getUserId() + "\" method=POST>");

3) out.println("<tr><form action=\"/webui/cqsuser?userId="+user.getUserId() + "\" " + "method=POST><td><input type='hidden' name='userId' value='"+ userId + "'/>");

4) out.println("<tr><form action=\"/webui/cqsuser?userId="+user.getUserId() + "\" " + "method=POST><td><input type='hidden' name='userId' value='"+ userId + "'/>");

21

5) out.println("<td><a href='/webui/cqsuser/message?userId=" + user.getUserId()+

"&queueName=" + Util.getNameForAbsoluteQueueUrl(queueUrls.get(i)) +

"'>Messages</td>");

6) out.println("<td><a href='/webui/cqsuser/permissions?userId="+ user.getUserId() +

"&queueName="+ Util.getNameForAbsoluteQueueUrl(queueUrls.get(i)) +

"'>Permissions</td>");

7) out.println("<td><a href="

onclick=\"window.open('/webui/cqsuser/editqueueattributes?queueName="+

Util.getNameForAbsoluteQueueUrl(queueUrls.get(i)) + "&userId="+userId+"',

'EditQueueAttributes', 'height=630,width=580,toolbar=no')\">Attributes</td>");

and

8) out.println("<h5 style='text-align:center;'>ADMIN

HOME</h5>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cqs/controller/

CQSUserPageServlet.java.

65. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective

cable television networks, services and transmission systems have been and are now

infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19,

20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory

infringement, by said CNSWorkerStatePageServlet generating and transmitting in

conjunction with program signals representative of predetermined program material code

documented in the following numbered sub-paragraph, defining within a print() or

println() statement of the PrintWriter method an URL pattern associated with a request for

dynamically generated information wherein said URL pattern defined within said print()
or println() statement maps to a servlet class designated to handle the request for
dynamically generated information:

   1) out.println("<td>Stats</td>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cns/controller/
CNSWorkerStatePageServlet.java.

66. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective
cable television networks, services and transmission systems have been and are now
infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19,
20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory
infringement, by said CNSTopicPermissionPage generating and transmitting in
conjunction with program signals representative of predetermined program material code
documented in the following numbered sub-paragraphs, defining within a print() or
println() statement of the PrintWriter method an URL pattern associated with a request for
dynamically generated information wherein said URL pattern defined within said print()
or println() statement maps to a servlet class designated to handle the request for
dynamically generated information:

   1) out.println("<form
        action=\"/webui/cnsuser/permission/?userId="+user.getUserId()+"&topicArn="+topic
        Arn+"\" method=POST>");

   2) out.println("<p><a href="
        onclick=\"window.open('/webui/cnsuser/addpermission/?topicArn=" + topicArn +
        "&topicName=" + Util.getNameFromTopicArn(topicArn) + "&userId=" + userId + "',

'AddTopicPermission',

'location=0,menubar=0,scrollbars=0,status=0,titlebar=0,toolbar=0,height=470,width=

730')\">Add permission</p>");

3) out.println("<h5 style='text-align:center;'>ADMIN HOME");

and

4) out.println("<a

href='/webui/cnsuser?userId="+userId+"&topicArn="+topicArn+"'>BACK TO

TOPIC</h5>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cns/controller/

CNSTopicPermissionPage.java.

67. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective

cable television networks, services and transmission systems have been and are now

infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19,

20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory

infringement, by said CNSSubscriptionPageServlet generating and transmitting in

conjunction with program signals representative of predetermined program material code

documented in the following numbered sub-paragraphs, defining within a print() or

println() statement of the PrintWriter method an URL pattern associated with a request for

dynamically generated information wherein said URL pattern defined within said print()

or println() statement maps to a servlet class designated to handle the request for

dynamically generated information:

1) out.println("<form action=\"/webui/cnsuser/subscription/?userId="+userId+"&topicArn="+topicArn+"\" method=POST>");

2) out.println("<form action=\"/webui/cnsuser/subscription/?userId="+user.getUserId()+"&arn="+s.getSubscriptionArn()+"&topicArn="+topicArn+"\" method=POST>");

3) out.println("<td>"+s.getEndpoint()+"</td>");

4) out.println("<td>"+s.getEndpoint()+"</td>");

5) out.println("<td>View/Edit Delivery Policy</td>");

6) out.println("<td>Raw Message Delivery</td>");

7) out.println("<p>next ></p>");

8) out.println("<h5 style='text-align:center;'>ADMIN HOME"); and

    9)   out.println("<a

        href='/webui/cnsuser?userId="+userId+"&topicArn="+topicArn+"'>BACK TO

        TOPIC</h5>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cns/controller/

CNSSubscriptionPageServlet.java.

68.   Defendants Comcast and NBCU, jointly, severally or alternatively in their respective

     cable television networks, services and transmission systems have been and are now

     infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19,

     20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory

     infringement, by said CQSQueueMessagesPageServlet generating and transmitting in

     conjunction with program signals representative of predetermined program material code

     documented in the following numbered sub-paragraphs, defining within a print() or

     println() statement of the PrintWriter method an URL pattern associated with a request for

     dynamically generated information wherein said URL pattern defined within said print()

     or println() statement maps to a servlet class designated to handle the request for

     dynamically generated information:

    1)   out.println("<form id='frm1'

        action=\"/webui/cqsuser/message/?userId="+userId+"&queueName="+queueName+"

        \" method=POST>");

    2)   out.println("<form id='frm2'

        action=\"/webui/cqsuser/message/?userId="+userId+"&queueName="+queueName+"

        \" method=POST>");

3) out.println("<form id='formsendmessage'

action=\"/webui/cqsuser/message/?userId="+userId+"&queueName="+queueName+"

\" method=POST>");

4) out.println("<td><form

action=\"/webui/cqsuser/message/?userId="+user.getUserId()+"&queueName="+que

ueName+"&receiptHandle="+receivedMessage.getReceiptHandle()+"\"

method=POST><input type='submit' value='Delete' name='Delete'/><input

type='hidden' name='queueUrl' value='"+ queueUrl+ "' /></form></td></tr>");

5) out.println("<a style='float:left;'

href='/webui/cqsuser/message/?userId="+user.getUserId()+"&queueName="+queueN

ame+"&nextHandle="+previousHandle+"'>Prev");

6) out.println("<a style='float:left;'

href='/webui/cqsuser/message/?userId="+user.getUserId()+"&queueName="+queueN

ame+"&nextHandle="+previousHandle+"'>Prev");

7) out.println("<a style='float:right;'

href='/webui/cqsuser/message/?userId="+user.getUserId()+"&queueName="+queueN

ame+"&prevHandle="+nextHandle+"'>Next");

8) out.println("<h5 style='text-align:center;'>ADMIN HOME");

and

9) out.println("BACK TO

QUEUE</h5>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cqs/controller/

CQSQueueMessagesPageServlet.java.

27

69. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective

cable television networks, services and transmission systems have been and are now

infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19,

20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory

infringement, by said CQSAddQueuePermissionPage generating and transmitting in

conjunction with program signals representative of predetermined program material code

documented in the following numbered sub-paragraph, defining within a print() or

println() statement of the PrintWriter method an URL pattern associated with a request for

dynamically generated information wherein said URL pattern defined within said print()

or println() statement maps to a servlet class designated to handle the request for

dynamically generated information:

1) out.println("<form

action=\"/webui/cqsuser/addpermission/?queueName="+queueName+"\"

method=POST>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cqs/controller/

CQSAddQueuePermissionPage.java.

70. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective

cable television networks, services and transmission systems have been and are now

infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19,

20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory

infringement, by said CNSUserPageServlet generating and transmitting in conjunction

with program signals representative of predetermined program material code documented

in the following numbered sub-paragraphs, defining within a print() or println() statement

of the PrintWriter method an URL pattern associated with a request for dynamically generated information wherein said URL pattern defined within said print() or println() statement maps to a servlet class designated to handle the request for dynamically generated information:

1) out.println("<form action=\"/webui/cnsuser?userId=" + userId + "\" " + "method=POST>");

2) out.println("<form action=\"/webui/cnsuser?userId=" + userId + "\" " + "method=POST>");

3) out.println("<form action=\"/webui/cnsuser?userId="+userId+"\" method=POST>");

4) out.println("<td><a href="

    onclick=\"window.open('/webui/cnsuser/editdisplayname?topicArn="+

    t.getTopicArn() + "&userId="+userId+"', 'EditDisplayName',

    'height=300,width=700,toolbar=no')\">"+(attributes.get("DisplayName") == null ?

    "{unset}" : attributes.get("DisplayName"))+"</td>");

5) out.println("<td><a href='/webui/cnsuser/subscription?userId="+ userId +

    "&topicArn=" + t.getTopicArn() + "'>Subscriptions</td>");

6) out.println("<td><a href='/webui/cnsuser/publish?userId="+ userId + "&topicArn="+

    t.getTopicArn() + "' target='_blank'>Publish</td>");

7) out.println("<td><a href="

    onclick=\"window.open('/webui/cnsuser/editdeliverypolicy?topicArn="+

    t.getTopicArn() + "&userId="+userId+"', 'EditDeliveryPolicy',

    'height=630,width=580,toolbar=no')\">View/Edit Topic Delivery Policy</td>");

8) out.println("<td>Permission</td>");

9) out.println("<p>next ></p>"); and

10) out.println("<h5 style='text-align:center;'>ADMIN HOME</h5>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cns/controller/ CNSUserPageServlet.java.

71. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory infringement, by said CNSEditTopicDisplayNamePage generating and transmitting in conjunction with program signals representative of predetermined program material code documented in the following numbered sub-paragraph, defining within a print() or println() statement of the PrintWriter method an URL pattern associated with a request for dynamically generated information wherein said URL pattern defined within said print() or println() statement maps to a servlet class designated to handle the request for dynamically generated information:

1) out.println("<form action=\"/webui/cnsuser/editdisplayname?topicArn="+topicArn+"\" method=POST>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cns/controller/

CNSEditTopicDisplayNamePage.java.

72. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective

cable television networks, services and transmission systems have been and are now

infringing the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19,

20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory

infringement, by said CNSRawMessageDeliveryPolicyPage generating and transmitting in

conjunction with program signals representative of predetermined program material code

documented in the following numbered sub-paragraph, defining within a print() or

println() statement of the PrintWriter method an URL pattern associated with a request for

dynamically generated information wherein said URL pattern defined within said print()

or println() statement maps to a servlet class designated to handle the request for

dynamically generated information:

1) out.println("<form

action=\"/webui/cnsuser/subscription/rawmessagedeliverypolicy?subscriptionArn="+

subArn+"\" method=POST>");.

See https://github.com/Comcast/cmb/blob/master/src/com/comcast/cns/controller/

CNSRawMessageDeliveryPolicyPage.java.

COUNT II: DEFENDANTS COMCAST AND NBCU

INFRINGEMENT OF U.S. PATENT 8,713,425

73. Plaintiff re-alleges paragraphs 1-37 as if fully set forth herein.

74. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective

cable television networks, services and transmission systems have been and are now

infringing, directly and indirectly by way of inducement and/or contributory infringement, literally and/or under the doctrine of equivalents, the '425 Patent in this judicial district and elsewhere.

75. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent, directly and indirectly by way of inducement and/or contributory infringement, by encoding and transmitting said PrintWriter hyperlink address string in conjuction with program signals representative of predetermined program material.

76. By generating said print() or println() statements of a PrintWriter method contained in said CMB code, Defendant Comcast directly infringes the '425 Patent.

77. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have committed and continue to commit acts of infringement of the '425 Patent by marketing, leasing and/or selling a transmission service for transmitting and encoding program-related signals including said PrintWriter hyperlink address string in conjunction with program signals representative of predetermined program material.

78. Said predetermined printable output of said resource (selected or specified servlet object) in said initial array position printed via the PrintWriter includes AWS cloud network usage monitoring information such as performance and advertising metrics, web statistics and cost control information.

79. Said predetermined printable output of said resource (selected or specified servlet object) in said initial array position printed via the PrintWriter includes cloud-based

predetermined program material represented by program signals representative of predetermined program material.

80. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems commit the following acts of infringement of the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory infringement: generating and transmitting in conjunction with program signals representative of predetermined program material a PrintWriter Hyperlink Address String defining within a print() or println() statement of the PrintWriter method an URL pattern associated with a request for dynamically generated information.

COUNT III: DEFENDANTS COMCAST AND NBCU

INFRINGEMENT OF U.S. PATENT 8,713,425

81. Plaintiff re-alleges paragraphs 1-37 as if fully set forth herein.

82. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing, directly and indirectly by way of inducement and/or contributory infringement, literally and/or under the doctrine of equivalents, the '425 Patent in this judicial district and elsewhere.

83. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have committed and continue to commit acts of infringement of the '425 Patent, directly and indirectly by way of inducement and/or contributory infringement, by marketing, leasing and/or selling a transmission service for transmitting and encoding program-related signals including said

PrintWriter hyperlink address string in conjunction with program signals representative of predetermined program material.

84.   Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent, directly and indirectly by way of inducement and/or contributory infringement, by public class HConfig generating and transmitting in conjunction with program signals representative of predetermined program material PrintWriter statements having a out parameter for generating dynamically generated information regarding a given HAVi screen display or composition.

85. Via said public class HConfig, Defendant Comcast generates print() or println() statements of the PrintWriter method enabling Defendant Comcast to remotely monitor, control and debug program signals representative of predetermined program material transmitted via means for transmitting program signals by Defendant NBCU.

86. Defendant Comcast's generating said print() or println() statements of the PrintWriter method enabling Defendant Comcast to remotely monitor, control and debug program signals representative of predetermined program material transmitted via means for transmitting program signals by Defendant NBCU directly infringes the '425 Patent.

87. By generating said print() or println() statements of the PrintWriter method enabling Defendant Comcast to remotely monitor, control and debug program signals representative of predetermined program material transmitted via means for transmitting program signals by Defendant NBCU, Defendant Comcast directs and controls certain program signal transmission and encoding activities of Defendant NBCU that infringe the '425 Patent.

88. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective

cable television networks, services and transmission systems commit the following acts of

infringement of the '425 Patent including claims 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 18,

19, 20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory

infringement, by said public class HConfig generating and transmitting in conjunction

with program signals representative of predetermined program material code documented

in the following numbered sub-paragraphs, defining within a print() or println() statement

of the PrintWriter method predetermined information to be dynamically generated:

1) out.println("Found " + screens.length + " screens...");

2) out.println("Screen[" + i + "] " + screens[i]);

3) out.println("The default screen is screen[" + idx + "]");

4) out.println("Background[" + i + "]");

5) out.println("Video[" + i + "]");

6) out.println("Graphics[" + i + "]");

7) out.println(indent + port);

8) out.println(indent + TAB + "type = " + portType(port));

9) out.println(indent + TAB + "enabled = " + port.status());

10) out.println(indent + TAB + "hdcp = " +

port.queryCapability(VideoOutputPort.CAPABILITY_TYPE_HDCP));

11) out.println(indent + TAB + "dtcp = " +

port.queryCapability(VideoOutputPort.CAPABILITY_TYPE_DTCP));

12) out.println(indent + TAB + "restriction = " +

port.queryCapability(VideoOutputPort.CAPABILITY_TYPE_RESOLUTION_

RESTRICTION));

13) out.println(indent + "BackgroundDevice[" + i + "] " + bg[i]);

14) out.println(indent + "The default bg device is BackgroundDevice[" + idx + "]");

15) out.println(indent + "VideoDevice[" + i + "] " + video[i]);

16) out.println(indent + "The default video device is VideoDevice[" + idx + "]");

17) out.println(indent + "GraphicsDevice[" + i + "] " + gfx[i]);

18) out.println(indent + "The default gfx device is GraphicsDevice[" + idx + "]");

19) out.println(indent + "id = " + device.getIDstring());

20) out.println(indent + "aspect ratio = " + aspectRatio(device.getScreenAspectRatio()));

21) out.println(indent + "The " + name + " config is config[" + idx + "]");

22) out.println(indent + "BG Config[" + i + "] " + configs[i]);

23) out.println(indent + "Video Config[" + i + "] " + configs[i]);

24) out.println(indent + "Gfx Config[" + i + "] " + configs[i]);

25) out.println(indent + "flickerFilter = " + config.getFlickerFilter());

26) out.println(indent + "interlaced = " + config.getInterlaced());

27) out.println(indent + "pixel aspect ratio = " +

  aspectRatio(config.getPixelAspectRatio()));

28) out.println(indent + "resolution = " + resolution(config.getPixelResolution()));

29) out.println(indent + "screenArea = " + area(config.getScreenArea()));

30) out.println(indent + "color = " + bgConfig.getColor()); and

31) out.println(indent + "still = supported");.

See https://community.cablelabs.com/svn/OCAPRI/trunk/ri/RI_Stack/apps/

config/org/cablelabs/xlet/config/HConfig.java.

36

COUNT IV: DEFENDANTS COMCAST AND NBCU

INFRINGEMENT OF U.S. PATENT 8,713,425

89. Plaintiff re-alleges paragraphs 1-37 as if fully set forth herein.

90. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing, directly and indirectly by way of inducement and/or contributory infringement, literally and/or under the doctrine of equivalents, the '425 Patent in this judicial district and elsewhere.

91. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent, directly and indirectly by way of inducement and/or contributory infringement, by a jdwpGen node generating and transmitting in conjunction with program signals representative of predetermined program material said PrintWriter hyperlink address string having a writer parameter structured as a PrintWriter method for remote java debugging.

92. Via said jdwpGen node, Defendant Comcast generates print() or println() statements of the PrintWriter method enabling Defendant Comcast to remotely debug program signals representative of predetermined program material transmitted via means for transmitting program signals by Defendant NBCU.

93. Defendant Comcast's generating said print() or println() statements of the PrintWriter method enabling Defendant Comcast to remotely debug program signals representative of predetermined program material transmitted via means for transmitting program signals by Defendant NBCU directly infringes the '425 Patent.

94. By generating said print() or println() statements of the PrintWriter method enabling

Defendant Comcast to remotely debug program signals representative of predetermined

program material transmitted via means for transmitting program signals by Defendant

NBCU, Defendant Comcast directs and controls certain program signal transmission and

encoding activities of Defendant NBCU that infringe the '425 Patent.

95. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective

cable television networks, services and transmission systems have been and are now

infringing the '425 Patent including claims 1, 2, 3, 4, 6, 9, 10, 12, 13, 14, 15, 17, 18, 19,

20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory

infringement, by said said jdwpGen node generating and transmitting in conjunction with

program signals representative of predetermined program material code documented in the

following numbered sub-paragraphs, defining within a print() or println() statement of the

PrintWriter method predetermined information to be dynamically generated:

<div align="center">AbstractCommandNode</div>

1) writer.println("<h5>" + name +

" Command (" + nameNode.value() + ")</h5>");

2) writer.print("   "); and

3) writer.println(name() + " (" + nameNode.value() + ")");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/AbstractCommandNode.java?p

=20423.

<div align="center">AbstractGroupNode</div>

1) writer.println("void write(PacketStream ps) {");

2) writer.print(" a" + name());

3) writer.println(writeLabel + ".write(ps);"); and

4) writer.println("(vm, ps);");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/AbstractGroupNode.java?p=

20423.

AbstractNamedNode

1) writer.println("<h4>" + name +

 " Command Set</h4>");

2) writer.print("class " + javaClassName());

3) writer.println(javaClassImplements() + " {"); and

4) writer.println("#define " + context.whereC + " " + nameNode.value());.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/AbstractNamedNode.java?p=

20423.

AbstractTypeListNode

1) writer.println("<dt>" + name() + " Data");

2) writer.println(className + "(VirtualMachineImpl vm, PacketStream ps) {");

3) writer.println(className + "(" + javaParams() + ") {"); and

4) writer.println("this." + tn.name() + " = " + tn.name() + ";");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/AbstractTypeListNode.java?p=

20423.

<u>AbstractTypeNode</u>

1) writer.println("<td colspan=" + (maxStructIndent - structIndent) + ">");

2) writer.println(docType() + "<td><i>" + name() + "</i><td>" + comment() +
   " "); and

3) writer.print(" " + name);.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/AbstractTypeNode.java?p=

20423.

<u>AltNode</u>

1) writer.println("<td colspan=" + (maxStructIndent - structIndent + 1) + ">");

2) writer.println("Case " + nameNode.name + " - if <i>" +
   ((SelectNode)parent).typeNode.name + "</i> is " + nameNode.value() + ":");

3) writer.print("static final " + select.typeNode.javaType());

4) writer.println(" ALT_ID = " + nameNode.value() + ";");

5) writer.println(select.typeNode.javaParam() + "() {");

6) writer.println("return ALT_ID;");

7) writer.println("case " + nameNode.value() + ":");

8) writer.println(common + " = new " + name + "(vm, ps);");

9) writer.print("static " + select.name() + " create(");

10) writer.print(javaParams());

11) writer.print("return new " + select.name() + "(");

12) writer.print("ALT_ID, new " + javaClassName() + "("); and

13) writer.print(tn.name());.

40

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/ OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/AltNode.java?p=20423.

<div align="center">BooleanTypeNode</div>

1) writer.println("ps.writeBoolean(" + writeLabel + ");");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/BooleanTypeNode.java?p=

20423.

<div align="center">ByteTypeNode</div>

1) writer.println("ps.writeByte(" + writeLabel + ");");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/ByteTypeNode.java?p=20423.

<div align="center">CommandNode</div>

1) writer.println("static final int COMMAND = " + nameNode.value() + ";");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/CommandNode.java?p=20423.

<div align="center">CommandSetNode</div>

1) writer.println("<h4>" + name +

" Command Set (" + nameNode.value() + ")</h4>");

2) writer.print("<li>");

3) writer.println(name() + " Command Set (" + nameNode.value() + ")");

4) writer.println("static final int COMMAND_SET = " + nameNode.value() + ";"); and

5) writer.println("private " + name() + "() {} // hide constructor");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/CommandSetNode.java?p=

20423.

ConstantNode

1) writer.println("static final int " + name + " = " + nameNode.value() + ";"); and

2) writer.println("<tr><td>" + name + "<td>" + nameNode.value() +

"<td>" + comment() + " ");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/ConstantNode.java?p=20423.

ConstantSetNode

1) writer.println("<h4>" + name +

" Constants</h4>");

2) writer.println("<a NAME=\"" + name + "_" + n.name + "\">");

3) writer.print("<li>"); and

4) writer.println(name() + " Constants");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/ConstantSetNode.java?p=

20423.

ErrorNode

1) writer.println("<tr><td>" + "<a href=\"#" + NAME_OF_ERROR_TABLE + "_" +

name + "\">" + name + "</td>" + "<td>" + com + " </td></tr>");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/ErrorNode.java?p=20423.

ErrorSetNode

1) writer.println("<dt>" + "Error Data");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/ErrorSetNode.java?p=20423.

FieldTypeNode

1) writer.println("ps.writeFieldRef(" + writeLabel + ");");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/FieldTypeNode.java?p=20423.

FrameTypeNode

1) writer.println("ps.writeFrameRef(" + writeLabel + ");");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/FrameTypeNode.java?p=20423.

IntTypeNode

1) writer.println("ps.writeInt(" + writeLabel + ");");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ ODLSrc/OCAP-1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/ IntTypeNode.java?p=20423.

LocationTypeNode

1) writer.println("ps.writeLocation(" + writeLabel + ");");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/LocationTypeNode.java?p=20423.

LongTypeNode

1) writer.println("ps.writeLong(" + writeLabel + ");");.

43

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/LongTypeNode.java?p=20423.

MethodTypeNode

    1) writer.println("ps.writeMethodRef(" + writeLabel + ");");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/MethodTypeNode.java?p=

20423.

Node

    1) writer.println("if ((ps.vm.traceFlags & VirtualMachineImpl.TRACE_SENDS)

        != 0) {");

    2) writer.print("ps.vm.printTrace(\"Sending: ");

    3) writer.print(writeLabel + "(" + javaType() + "): \" + ");

    4) writer.println(displayValue + ");");

    5) writer.println("if (vm.traceReceives) {");

    6) writer.print("vm.printReceiveTrace(" + depth + ", \"");

    7) writer.print(readLabel + "(" + javaType() + "): \" + ");

    8) writer.println(displayValue + ");");

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/Node.java?p=20423.

OutNode

    1) writer.print("static " + cmdName + " process(VirtualMachineImpl vm");

    2) writer.print(tn.javaParam());

    3) writer.println("throws JDWPException {");

4) writer.print("PacketStream ps = enqueueCommand(vm");

5) writer.print(tn.name());

6) writer.println("return waitForReply(vm, ps);");

7) writer.print("static PacketStream enqueueCommand(VirtualMachineImpl vm");

8) writer.print(tn.javaParam());

9) writer.println("PacketStream ps = new PacketStream(vm, COMMAND_SET,

   COMMAND);");

10) writer.println("if ((vm.traceFlags & vm.TRACE_SENDS) != 0) {");

11) writer.print("vm.printTrace(\"Sending Command(id=\" + ps.pkt.id + \") ");

12) writer.print(parent.context.whereJava);

13) writer.println("\"+(ps.pkt.flags!=0?\", FLAGS=\" + ps.pkt.flags:\"\"));");

14) writer.println("ps.send();");

15) writer.println("return ps;");

16) writer.println("static " + cmdName + " waitForReply(VirtualMachineImpl vm, " +

   "PacketStream ps)");

17) writer.println("throws JDWPException {");

18) writer.println("ps.waitForReply();"); and

19) writer.println("return new " + cmdName + "(vm, ps);");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/OutNode.java?p=20423.

<div align="center">ReferenceIDTypeNode</div>

1) writer.println("ps.writeClassRef(" + writeLabel + ");");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/ReferenceIDTypeNode.java?p=

20423.

ReferenceTypeNode

1) writer.println("ps.writeClassRef(" + writeLabel + ".ref());");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/ReferenceTypeNode.java?p=

20423.

RepeatNode

1) writer.println("<td colspan=" + (maxStructIndent - structIndent) + ">");

2) writer.println("int<td><i>" + name + "</i><td>" + comment() + " ");

3) writer.println("<td colspan=" + (maxStructIndent - structIndent + 2) + ">");

4) writer.println("Repeated <i>" + name + "</i> times:");

5) writer.println("ps.writeInt(" + writeLabel + ".length);");

6) writer.println("for (int i = 0; i < " + writeLabel + ".length; i++) {;");

7) writer.println("int " + cntLbl + " = ps.readInt();");

8) writer.println(readLabel + " = new " + member.javaType() +

   "[" + cntLbl + "];"); and

9) writer.println("for (int i = 0; i < " + cntLbl + "; i++) {;");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/RepeatNode.java?p=20423.

ReplyNode

1) writer.println("if (vm.traceReceives) {");

2) writer.print("vm.printTrace(\"Receiving Command(id=\" + ps.pkt.id + \") ");

3) writer.print(parent.context.whereJava);

4) writer.print("+(ps.pkt.flags!=0?\", FLAGS=\" + ps.pkt.flags:\"\")"); and

5) writer.print("+(ps.pkt.errorCode!=0?\", ERROR CODE=\" +

   ps.pkt.errorCode:\"\")");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/ReplyNode.java?p=20423.

RootNode

1) writer.println("<html><head><title>" + comment() + "</title></head>");

2) writer.println("package com.sun.tools.jdi;");

3) writer.println("import com.sun.jdi.*;"); and

4) writer.println("import java.util.*;");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/RootNode.java?p=20423.

SelectNode

1) writer.println("abstract static class " + commonBaseClass() + " {");

2) writer.println("abstract void write(PacketStream ps);");

3) writer.println("abstract " + typeNode.javaParam() + "();");

4) writer.println(commonBaseClass() + commonVar() + ";");

5) writer.print(className + "(" + typeNode.javaParam() + ", ");

6) writer.print(commonBaseClass() + commonVar());

7) writer.println("this." + typeNode.name() + " = " + typeNode.name() + ";");

8) writer.println("this." + commonVar() + " =" + commonVar() + ";");

9)   writer.println(commonVar() + ".write(ps);"); and

10) writer.println("switch (" + typeNode.name() + ") {");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/SelectNode.java?p=20423.

<div align="center">StringTypeNode</div>

1)   writer.println("ps.writeString(" + writeLabel + ");");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/StringTypeNode.java?p=20423.

<div align="center">UntaggedValueTypeNode</div>

1)   writer.println("ps.writeUntaggedValue(" + writeLabel + ");");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/UntaggedValueTypeNode.java?

p=20423.

<div align="center">ValueTypeNode</div>

1)   writer.println("ps.writeValue(" + writeLabel + ");");.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/ValueTypeNode.java?p=20423.

See https://community.cablelabs.com/svn/OCAPRI/tags/stable_ctp_no_upnp/ri/ ODLSrc/OCAP-

1.0/jvm/Sun/src/share/tools/jpda/classes/com/sun/tools/jdwpgen/?p=20423.

<div align="center">

COUNT V: DEFENDANTS COMCAST AND NBCU

INFRINGEMENT OF U.S. PATENT 8,713,425

</div>

96.   Plaintiff re-alleges paragraphs 1-37 as if fully set forth herein.

97.   Defendants Comcast and NBCU, jointly, severally or alternatively in their respective
cable television networks, services and transmission systems have been and are now
infringing, directly and indirectly by way of inducement and/or contributory infringement,
literally and/or under the doctrine of equivalents, the '425 Patent in this judicial district
and elsewhere.

98.   Defendants Comcast and NBCU, jointly, severally or alternatively in their respective
cable television networks, services and transmission systems have been and are now
infringing the '425 Patent, directly and indirectly by way of inducement and/or
contributory infringement, by public class MC generating and transmitting in conjunction
with program signals representative of predetermined program material said PrintWriter
hyperlink address string having a pw parameter structured as a PrintWriter method for
transport stream directory and file tree building.

99.   Defendants Comcast and NBCU, jointly, severally or alternatively in their respective
cable television networks, services and transmission systems have been and are now
infringing the '425 Patent, directly and indirectly by way of inducement and/or
contributory infringement, by marketing, leasing and/or selling transmission and encoding
service for transmitting and encoding for transmission in conjunction with program signals
representative of predetermined program material said PrintWriter hyperlink address
string.

100. Via said public class MC, Defendant Comcast generates print() or println() statements of
the PrintWriter method to be transmitted in conjunction with program signals
representative of predetermined program material by Defendant NBCU.

101. Defendant Comcast's generating said print() or println() statements of the PrintWriter method to be transmitted in conjuction with program signals representative of predetermined program material by Defendant NBCU directly infringes the '425 Patent.

102. By generating said print() or println() statements of the PrintWriter method to be transmitted in conjuction with program signals representative of predetermined program material by Defendant NBCU, Defendant Comcast directs and controls certain program signal transmission and encoding activities of Defendant NBCU that infringe the '425 Patent.

103. Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television networks, services and transmission systems have been and are now infringing the '425 Patent including claims 1, 2, 3, 4, 7, 9, 10, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory infringement, by said public class MC generating and transmitting in conjunction with program signals representative of predetermined program material code documented in the following numbered sub-paragraphs, defining within a print() or println() statement of the PrintWriter method predetermined information to be dynamically generated:

1) pw.printMsg("package @ ;", packageName);

2) pw.printMsg("public class @ extends LogWrapperBase {", className);

3) pw.printMsg("public @(Logger logger)", className);

4) pw.println("super(logger) ;");

5) pw.printMsg("// Log wrapper class for Sun private system exceptions in group @", groupName);

6) pw.printMsg("// Generated by MC.java version @, DO NOT EDIT BY HAND!", VERSION);

7) pw.printMsg("// Generated from input file @ on @", inFile, new Date());

8) pw.println("import org.omg.CORBA." + e.getName() + " ;");

9) pw.println("private static LogWrapperFactory factory = new LogWrapperFactory() {");

10) pw.println("public LogWrapperBase create(Logger logger)");

11) pw.printMsg("return new @(logger) ;", className);

12) pw.printMsg("public static @ get(ORB orb, String logDomain)", className);

13) pw.printMsg("@ wrapper = ", className);

14) pw.printMsg("(@) orb.getLogWrapper(logDomain, ", className);

15) pw.printMsg("\"@\", factory) ;", groupName);

16) pw.println("return wrapper ;");

17) pw.printMsg("public static @ get(String logDomain)", className);

18) pw.printMsg("@ wrapper = ", className);

19) pw.printMsg("(@) ORB.staticGetLogWrapper(logDomain, ", className);

20) pw.printMsg("\"@\", factory) ;", groupName);

21) pw.println("return wrapper ;");

22) pw.printMsg("// @", e.getName());

23) pw.printMsg("public static final int @ = @ ;", errorName, getBase(groupName, code));

24) pw.printMsg("public @ @(CompletionStatus cs, Throwable t@) {", exceptionName, ident, makeDeclArgs(true, numParams));

51

25) pw.printMsg("@ exc = new @(@, cs) ;", exceptionName, exceptionName,

   errorName);

26) pw.println("exc.initCause(t) ;");

27) pw.printMsg("if (logger.isLoggable(Level.@)) {", logLevel);

28) pw.printMsg("Object[] parameters = new Object[@] ;", numParams);

29) pw.printMsg("parameters[@] = arg@ ;", a, a);

30) pw.println("Object[] parameters = null ;");

31) pw.printMsg("doLog(Level.@, \"@.@\",", logLevel, groupName, ident);

32) pw.printMsg("parameters, @.class, exc) ;", className);

33) pw.println("return exc ;");

34) pw.printMsg("public @ @(CompletionStatus cs@) {", exceptionName, ident,

   makeDeclArgs(true, numParams));

35) pw.printMsg("return @(cs, null@) ;", ident, makeCallArgs(true, numParams));

36) pw.printMsg("public @ @(Throwable t@) {", exceptionName, ident,

   makeDeclArgs(true, numParams));

37) pw.printMsg("return @(CompletionStatus.COMPLETED_NO, t@) ;", ident,

   makeCallArgs(true, numParams));

38) pw.printMsg("public @ @(@) {", exceptionName, ident, makeDeclArgs(false,

   numParams));

39) pw.printMsg("return @(CompletionStatus.COMPLETED_NO, null@) ;", ident,

   makeCallArgs(true, numParams)); and

40) pw.printMsg("@.@=\"@: (@) @\"", groupName, ident, getMessageID(groupName,

   exName, c.getCode()), exName, c.getMessage());.

52

See http://www.docjar.com/html/api/com/sun/tools/corba/se/logutil/MC.java.html.

COUNT VI: DEFENDANTS COMCAST AND NBCU

INFRINGEMENT OF U.S. PATENT 8,713,425

104.   Plaintiff re-alleges paragraphs 1-37 as if fully set forth herein.

105.   Defendants Comcast and NBCU, jointly, severally or alternatively in their respective cable television upnp Home Network systems, services and devices, have been and are now infringing, directly and indirectly by way of inducement and/or contributory infringement, literally and/or under the doctrine of equivalents, the '425 Patent in this judicial district and elsewhere.

106.   Defendants Comcast and NBCU, individually, jointly, severally or alternatively in their respective cable television upnp Home Network systems, services and devices, have been and are now infringing the '425 Patent, directly and indirectly by way of inducement and/or contributory infringement, by an upnp Home Network node generating and transmitting in conjunction with program signals representative of predetermined program material said PrintWriter hyperlink address string structured as a PrintWriter method having a ps (PrintStream) parameter.

107.   Defendants Comcast and NBCU, individually, jointly, severally or alternatively in their respective cable television upnp Home Network systems, services and devices, have committed and continue to commit acts of infringement of the '425 Patent, directly and indirectly by way of inducement and/or contributory infringement, by marketing, leasing and/or selling a transmission and encoding service for, respectively, transmitting and encoding program-related signals including said PrintWriter hyperlink address string in conjunction with program signals representative of predetermined program material.

108. Via said upnp Home Network node, Defendant Comcast generates print() or println() statements of the PrintWriter method to be transmitted in conjuction with program signals representative of predetermined program material by Defendant NBCU.

109. Defendant Comcast's generating said print() or println() statements of the PrintWriter method to be transmitted in conjuction with program signals representative of predetermined program material by Defendant NBCU directly infringes the '425 Patent.

110. By generating said print() or println() statements of the PrintWriter method to be transmitted in conjuction with program signals representative of predetermined program material by Defendant NBCU, Defendant Comcast directs and controls certain program signal transmission and encoding activities of Defendant NBCU that infringe the '425 Patent.

111. Defendants Comcast and NBCU, individually, jointly, severally or alternatively in their respective cable television upnp Home Network systems, services and devices, have been and are now committing the following acts of infringement of the '425 Patent including claims 1, 2, 3, 4, 8, 9, 10, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23 and 24, directly and indirectly by way of inducement and/or contributory infringement, by said upnp Home Network node generating and transmitting in conjunction with program signals representative of predetermined program material code documented in the following numbered sub-paragraphs, defining within a print() or println() statement of the PrintWriter method predetermined information to be dynamically generated:

ContainerNode

1) ps.print(" " + ContainerNode.SEARCHABLE + "=\"");

2) ps.print(XML.escapeXMLChars(getProperties().getProperty(ContainerNode.

SEARCHABLE).getPropertyValue()) + "\"");

3) ps.print(" " + ContainerNode.CHILDCOUNT + "=\"");

4) ps.print(XML.escapeXMLChars(Integer.toString(getReferences().length)) + "\"");

5) ps.print("<" + Node.TITLE   + ">");

6) ps.print(getProperties().getProperty(Node.TITLE).getPropertyValue());

7) ps.println("</" + Node.TITLE + ">");

8) ps.print("<" + Node.UPNPCLASS + ">");

9) ps.print(getProperties().getProperty(Node.UPNPCLASS).getPropertyValue());

10) ps.println("</" + Node.UPNPCLASS + ">");

11) ps.print("<" + Node.OCAP_PERMISSION + ">");

12) ps.print(getProperties().getProperty(Node.OCAP_PERMISSION).getPropertyValu

e());

13) ps.println("</" + Node.OCAP_PERMISSION + ">"); and

14) ps.println("</" + getName() + ">");.

See https://community.cablelabs.com/svn/OCAPRI/tags/hn_down_merged_via_copy/ri/

ODLSrc/OCAP-1.0/java/src/hn/org/cablelabs/impl/ocap/hn/contentdatabase/

ContainerNode.java.

<div align="center">ItemNode</div>

1) ps.print("<" + ItemNode.DATE + ">");

2) ps.print(date);

3) ps.println("</" + ItemNode.DATE + ">");

4) ps.print("<" + ItemNode.RCILIST + ">");

5) ps.print(rciList);

6) ps.println("</" + ItemNode.RCILIST + ">");

7) ps.print("<" + ItemNode.RESOURCE);

8) ps.print(" " + ItemNode.PROTOCOLINFO + "=\"");

9) ps.print(getProperties().getProperty(ItemNode.PROTOCOLINFO).

getPropertyValue() + "\"");

10) ps.print(" " + ItemNode.SIZE + "=\"");

11) ps.print(getProperties().getProperty(ItemNode.SIZE).getPropertyValue() + "\"");

12) ps.print(getProperties().getProperty(ItemNode.URL).getPropertyValue());

13) ps.println("</" + ItemNode.RESOURCE + ">");

14) ps.print("<" + VideoItem.SRSID + ">");

15) ps.print(getProperties().getProperty(VideoItem.SRSID).getPropertyValue());

16) ps.println("</" + VideoItem.SRSID + ">"); and

17) ps.println("</" + getName() + ">");.

See https://community.cablelabs.com/svn/OCAPRI/tags/hn_down_merged_via_copy/ri/

ODLSrc/OCAP-1.0/java/src/hn/org/cablelabs/impl/ocap/hn/contentdatabase/ItemNode.java.

<u>Node</u>

1) ps.print("<" + getName());

2) ps.print(" " + Node.ID + "=\"");

3) ps.print(XML.escapeXMLChars(getProperties().getProperty(Node.ID).getProperty

Value()) + "\"");

4) ps.print(" " + Node.PARENTID + "=\"");

5) ps.print(XML.escapeXMLChars(getProperties().getProperty(Node.PARENTID).getP

ropertyValue()) + "\"");

6) ps.print(" " + Node.RESTRICTED + "=\"");

7) ps.print(XML.escapeXMLChars(getProperties().getProperty(Node.RESTRICTED).g etPropertyValue()) + "\"");

8) ps.print("<" + Node.TITLE   + ">");

9) ps.print(getProperties().getProperty(Node.TITLE).getPropertyValue());

10) ps.println("</" + Node.TITLE + ">");

11) ps.print("<" + Node.UPNPCLASS + ">");

12) ps.print(getProperties().getProperty(Node.UPNPCLASS).getPropertyValue());

13) ps.println("</" + Node.UPNPCLASS + ">");

14) ps.print("<" + Node.OCAP_PERMISSION + ">");

15) ps.print(getProperties().getProperty(Node.OCAP_PERMISSION). getPropertyValue());

16) ps.println("</" + Node.OCAP_PERMISSION + ">"); and

17) ps.println("</" + getName() + ">");.

See https://community.cablelabs.com/svn/OCAPRI/tags/hn_down_merged_via_copy/ri/

ODLSrc/OCAP-1.0/java/src/hn/org/cablelabs/impl/ocap/hn/contentdatabase/Node.java.

UPNP Home Network Device, Service & Icon Discovery

1) ps.println("deviceType = " + getDeviceType());

2) ps.println("freindlyName = " + getFriendlyName());

3) ps.println("presentationURL = " + getPresentationURL());

4) ps.println("devList = " + devList.size());

5) ps.println("serviceList = " + serviceList.size());

6) ps.println("iconList = " + iconList.size());

See https://github.com/cybergarage/cybergarage-upnp/blob/master/core/src/main/java/org/

cybergarage/upnp/Device.java.

<p style="text-align:center;">VideoItem</p>

1) ps.print("<" + VideoItem.TASKID + ">");

2) ps.print(getProperties().getProperty(VideoItem.TASKID).getPropertyValue());

3) ps.println("</" + VideoItem.TASKID + ">");

4) ps.print("<" + VideoItem.TASK_STATE + ">");

5) ps.print(getProperties().getProperty(VideoItem.TASK_STATE).getPropertyValue());

6) ps.println("</" + VideoItem.TASK_STATE + ">");

7) ps.print("<" + VideoItem.SCHED_START_DATE + ">");

8) ps.print(getProperties().getProperty(VideoItem.SCHED_START_DATE).getProperty
   Value());

9) ps.println("</" + VideoItem.SCHED_START_DATE + ">");

10) ps.print("<" + VideoItem.SCHED_DURATION + ">");

11) ps.print(getProperties().getProperty(VideoItem.SCHED_DURATION).
    getPropertyValue());

12) ps.print("</" + VideoItem.SCHED_DURATION + ">");

13) ps.print("<" + VideoItem.SCHED_CH_ID + ">");

14) ps.print(getProperties().getProperty(VideoItem.SCHED_CH_ID).
    getPropertyValue());

15) ps.print("</" + VideoItem.SCHED_CH_ID + ">");

16) ps.print("<" + VideoItem.DESTINATION + ">");

17) ps.print(getProperties().getProperty(VideoItem.DESTINATION).

```
        getPropertyValue());

18) ps.print("</" + VideoItem.DESTINATION + ">");

19) ps.print("<" + VideoItem.PRI_FLAG + ">");

20) ps.print(getProperties().getProperty(VideoItem.PRI_FLAG).getPropertyValue());

21) ps.print("</" + VideoItem.PRI_FLAG + ">");

22) ps.print("<" + VideoItem.RETEN_PRI + ">");

23) ps.print(getProperties().getProperty(VideoItem.RETEN_PRI).getPropertyValue());

24) ps.print("</" + VideoItem.RETEN_PRI + ">");

25) ps.print("<" + Node.OCAP_PERMISSION + ">");

26) ps.print(getProperties().getProperty(Node.OCAP_PERMISSION).

        getPropertyValue());

27) ps.print("</" + Node.OCAP_PERMISSION + ">");

28) ps.print("<" + VideoItem.ORG_STRING + ">");

29) ps.print(getProperties().getProperty(VideoItem.ORG_STRING).getPropertyValue());

30) ps.print("</" + VideoItem.ORG_STRING + ">");

31) ps.print("<" + VideoItem.APPID + ">");

32) ps.print(getProperties().getProperty(VideoItem.APPID).getPropertyValue());

33) ps.print("</" + VideoItem.APPID + ">");

34) ps.print("<" + VideoItem.ORGID + ">");

35) ps.print(getProperties().getProperty(VideoItem.ORGID).getPropertyValue());

36) ps.print("</" + VideoItem.ORGID + ">");

37) ps.print("<" + VideoItem.SPACE_REQ + ">");

38) ps.print(getProperties().getProperty(VideoItem.SPACE_REQ).getPropertyValue());
```

39) ps.print("</" + VideoItem.SPACE_REQ + ">");

40) ps.print("<" + VideoItem.CONTENT_URI + ">");

41) ps.print(getProperties().getProperty(VideoItem.CONTENT_URI).

getPropertyValue());

42) ps.print("</" + VideoItem.CONTENT_URI + ">");

43) ps.print("<" + VideoItem.MEDIA_PRES_POINT + ">");

44) ps.print(getProperties().getProperty(VideoItem.MEDIA_PRES_POINT).getProperty

Value());

45) ps.print("</" + VideoItem.MEDIA_PRES_POINT + ">");

46) ps.print("<" + VideoItem.MSO_CONTENT_INDICATOR + ">");

47) ps.print(getProperties().getProperty(VideoItem.MSO_CONTENT_INDICATOR).get

PropertyValue());

48) ps.print("</" + VideoItem.MSO_CONTENT_INDICATOR + ">");

49) ps.print("<" + VideoItem.EXP_PERIOD + ">");

50) ps.print(getProperties().getProperty(VideoItem.EXP_PERIOD).getPropertyValue());

51) ps.print("</" + VideoItem.EXP_PERIOD + ">");

52) ps.print("<" + VideoItem.MEDIA_STOR_VOL + ">");

53) ps.print(getProperties().getProperty(VideoItem.MEDIA_STOR_VOL).

getPropertyValue());

54) ps.print("</" + VideoItem.MEDIA_STOR_VOL + ">"); and

55) ps.println("</" + getName() + ">");.

See https://community.cablelabs.com/svn/OCAPRI/tags/RI_I1_1_3_REL_B/ri/ODLSrc/OCAP-

1.0/java/src/hn/org/cablelabs/impl/ocap/hn/contentdatabase/VideoItem.java.

RELIEF WARRANTED FOR INFRINGEMENT OF U.S. PATENT 8,713,425

112. Defendant Comcast's infringing activity alleged above comprises the compelling reason Comcast's cable television service and product is acquired in the consumer marketplace. Likewise, Defendant NBCU's infringing activity alleged above comprises the compelling reason NBCU's service is acquired in the consumer marketplace.

113. Defendant Comcast's infringing activity alleged above creates a performance advantage in Comcast's cable television networks that drives demand for respective cable television service and customer premises equipment. In similar manner, Defendant NBCU's infringing activity alleged above creates a performance advantage in NBCU's service markets that drives demand for NBCU's service. There is no acceptable non-infringing substitute in Defendant Comcast's cable television system for said infringing activity alleged above. Neither is there an acceptable non-infringing substitute in Defendant NBCU's service markets for said infringing activity alleged above.

114. Progme has no adequate remedy at law against Defendant Comcast's acts of infringement and, unless Defendant Comcast is enjoined from continuing to infringe the '425 Patent, Progme will suffer irreparable harm. Likewise, Progme has no adequate remedy at law against Defendant NBCU's acts of infringement and, unless Defendant NBCU is enjoined from continuing to infringe the '425 Patent, Progme will suffer irreparable harm.

115. Defendants Comcast and NBCU had prior constructive knowledge of the '425 Patent as indicated in **Exhibit C**, the patent number "**Patent 8,713,425**" marked on the PrintHD.TV home page (located at www.printhd.tv) web page, labelling at the bottom of the page on 5/27/14, to provide constructive notice thereof pursuant to 35 U.S.C. § 287.

116. Progme has at all times complied with 35 U.S.C. § 287, providing Defendants Comcast and NBCU with prior constructive notice, which constituted consistent and continuous notice of the '425 Patent being infringed by Defendants Comcast and NBCU.

117. This Complaint asserts patent infringement of only one or more of the method claims of the '425 Patent, not the one or more of the apparatus claims of the '425 Patent.

118. The method of generating and encoding the hyperlink address string structured as a PrintWriter method claimed in the '425 Patent and alleged infringed herein is capable of being produced in a physical device, a web page, for constructive notice by marking pursuant to 35 U.S.C. § 287.

119. Defendants Comcast and NBCU received actual notice thereof from service of the original complaint on their parent Comcast Corporation on or about 11/16/15.

120. Defendants Comcast and NBCU received actual notice thereof from service of Progme's **NOTICE OF DISMISSAL OF DEFENDANTS AND ACTION AGAINST DEFENDANTS PURSUANT TO FRCP 41(a)(1)(A)(i)** on 11/25/15.

121. In addition, Defendants Comcast and NBCU received actual notice thereof from service of this Amended Complaint.

122. As a result of Defendants Comcast and NBCU's acts of infringement, Progme has suffered and will continue to suffer damages in an amount to be proved at trial. Pursuant to 35 U.S.C § 284, Progme is entitled to adequate damages to compensate for infringement including a reasonable royalty from the date of Defendants' respective notice of the '425 Patent. Progme has no means of ascertaining the full extent of Defendants' respective infringement of the '425 Patent and the amount of Progme's damages resulting

from said infringement except through the production of evidence thereof in Defendants'

respective sole possession and control.

PRAYER FOR RELIEF

123. WHEREFORE, Progme prays for the following relief:

    a. A judgment in favor of Progme that Defendants Comcast and NBCU each has infringed, directly and indirectly by way of inducement and/or contributory infringement, literally and/or under the doctrine of equivalents, at least one claim of the '425 Patent;

    b. A permanent injunction enjoining Defendants Comcast and NBCU and their respective officers, directors, agents, servants, employees, affiliates, divisions, branches, subsidiaries, parents, and all others acting in concert or privity with any of them from infringing, inducing the infringement of, or contributing to the infringement of the '425 Patent;

    c. Award to Progme the damages to which it is entitled by law and under 35 U.S.C. § 284 for Defendants Comcast and NBCU's past infringement and any continuing or future infringement up until the date Defendants Comcast and NBCU are each finally and permanently enjoined from further infringement, including both compensatory damages and treble damages for willful infringement;

    d. A finding that this is an "exceptional action" and a judgment and order requiring Defendants to pay the costs of this action (including all disbursements) as well as attorneys' fees as provided by 35 U.S.C. § 285;

e. Award to Progme pre-judgment and post-judgment interest on its damages

and

f. Such other further relief in law or equity to which Progme may be justly

entitled.

DEMAND FOR JURY TRIAL

124. Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Progme hereby demands a

trial by jury as to all issues so triable.

Date: Febuary 17, 2016   Respectfully submitted,

/s/ David A. Reams
David A. Reams
Law Office of David A. Reams, P.C.
208 Clair Hill Drive
Rochester Hills, MI 48309
248-376-2840
godreams@juno.com
P # 62855

<u>CERTIFICATE OF SERVICE</u>

I hereby certify that on this 17th day of Febuary, 2016, I electronically filed the foregoing paper

with the Clerk of Court using the ECF system which will send notification of such filing to all

counsel of record.

                                        Signed,

                                        <u>/s/ David A. Reams</u>
                                        David A. Reams
                                        Law Office of David A. Reams, P.C.
                                        208 Clair Hill Drive
                                        Rochester Hills, MI 48309
                                        248-376-2840
                                        godreams@juno.com
                                        P # 62855