

Misc. Docket No. 2021-148

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

IN RE DISH NETWORK L.L.C.,

Petitioner

On petition for Writ of Mandamus to the United States District Court for the
Western District of Texas
No. 6:19-cv-00716-ADA, Hon. Alan D Albright

**BROADBAND iTV, INC.'S RESPONSE TO PETITION FOR
WRIT OF MANDAMUS**

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CERTIFICATE OF INTEREST

1. Represented Entities Fed. Cir. R. 47.4(a)(1)	2. Real Party in Interest Fed. Cir. R. 47.4(a)(2).	3. Parent Corporations and Stockholders. Fed Cir. R. 47.4(a)(3)
Provide the full names of all entities represented by undersigned counsel in this case	Provide the full names of all real parties in interest for the entities. Do not list the real parties if they are the same as the entities. <input checked="" type="checkbox"/> None/Not Applicable	Provide the full names of all parent corporations for the entities and all publicly held companies that own 10% or more stock in the entities. <input checked="" type="checkbox"/> None/Not Applicable
Broadband iTV, Inc.		
4. Legal Representatives. List all law firms, partners, and associates that (a) appeared for the entities in the originating court or agency or (b) are expected to appear in this court for the entities. Do not include those who have already entered an appearance in this court. Fed. Cir. R. 47.4(a)(4). <input type="checkbox"/> None/Not Applicable <input type="checkbox"/> Additional pages attached		
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6. Organizational Victims and Bankruptcy Cases. Provide any information required under Fed. R. App. P. 26.1(b) (organizational victims in criminal cases)and 26.1(c) (bankruptcy case debtors and trustees). Fed. Cir. R. 47.4(a)(6).

☒ None/Not Applicable

☐ Additional pages attached

June 14, 2021

Respectfully submitted,

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INTRODUCTION

“Mandamus is an extraordinary remedy, available only upon a demonstration by the petitioner of a ‘*clear and indisputable*’ right to the relief sought.” *In re Vistaprint Ltd.*, 628 F.3d 1342, 1344 (Fed. Cir. 2010) (emphasis added). DISH does not come close to meeting that standard. The district court acted well within its discretion in denying DISH’s motion for transfer based on “convenience” under 28 U.S.C. §1404(a)—as this Court’s precedent confirms.

The district court has before it four actions by BBiTV for infringement of its patents directed to video-on-demand (“VOD”) technology. The cases, which involve the same patents and similar accused products, raise many overlapping issues including, at a minimum, claim construction and validity, that can be resolved in streamlined proceedings before the district court. This Court has repeatedly held that, under those facts, a district court may give “‘paramount’ consideration” to the gain in judicial efficiency from keeping the cases together, and deny transfer on that basis. *Vistaprint*, 628 F.3d at 1347 . The district court properly did that here.

DISH’s complaints are not the stuff of mandamus. DISH protests that its rights are being eroded because it is “being made to . . . litigat[e] in a forum with no connection to the case.” Pet.2. But this appeal is not about venue. DISH and the other defendants admitted that venue is proper in the Western District of Texas. That is because the links between this case and the district are undeniable. DISH operates

one of its four U.S. broadcast centers in the district, which sends content to accused set-top boxes. DISH also operates facilities, with over 1,000 employees, that warehouse, repair, remanufacture, service, and sell accused products. Indeed, DISH has litigated other patent-infringement cases involving the same accused products in the district without seeking a transfer. This appeal is not about Texas’s purported lack of “connections to the case,” but DISH’s own attempted forum shopping and BBiTV’s strong interest in the economy of having all four of its infringement suits involving the same patents decided in a single forum.

DISH insists that convenience for witnesses is “determinative” under §1404(a) and is “rarely defeat[ed]” by interests of judicial economy. Pet.12. But this Court rejected that theory in *Vistaprint*, holding that district courts may treat judicial economy as “paramount,” even when “*all* of the convenience factors clearly favor transfer.” 628 F.3d at 1345 (emphasis added). *In re Zimmer* and *In re Google* are not to the contrary. Those cases were decided before *TC Heartland LLC v. Kraft Foods Grp. Brands LLC*, 137 S. Ct. 1514 (2017) raised the bar for proper venue under §1400. They involve venue manipulation wholly absent here, where everyone admitted venue is proper. DISH effectively conceded that it would not be overly burdened by litigating in this district by seeking an intra-district transfer to the Austin division—a mere hour and forty minute drive from Waco—as alternative relief.

DISH cannot establish “overwhelming” convenience factors that outweigh judicial efficiency concerns. *Vistaprint*, 628 F.3d at 1347. DISH complains that the district court gave little weight to the presence of two former employees in Colorado. But in the Fifth Circuit, that was irrelevant absent affirmative evidence that the witnesses were unwilling to testify, which DISH failed to supply. DISH also complains the court ignored the presence of several prior-art witnesses in Colorado. But the court was entitled to rely on its experience that prior-art witnesses are rarely called to testify in patent trials. DISH argues that the court “disregarded binding precedent” in giving little weight to the presence of documents in Colorado. That precedent addresses physical evidence, and is inapposite here where “DISH admits that its documents are stored electronically” and “does not argue that there are any non-electronic documents.” Appx6. It was no abuse of discretion for the district court to make the observation that DISH could just as easily produce electronic documents in Texas as in Colorado. Finally, DISH’s complaints about how the district court weighed the respective local interests, and its estimations of the speed with which the case would reach trial in the different districts, are no more than minor disputes about matters committed to the court’s discretion.

DISH’s argument boils down to the claim that minor conveniences to DISH from litigating this case in Colorado not only justify the burden on the federal court system that would result from transferring this case, but that this is the “only . . .

correct outcome” under these facts. *Vistaprint*, 628 F.3d at 1347. The law, and common sense, say otherwise. Mandamus should be denied.

STANDARD OF REVIEW

Fifth Circuit law controls. *Vistaprint*, 628 F.3d at 1344. “A writ of mandamus is a ‘drastic and extraordinary remedy reserved for really extraordinary causes.’” *In re Depuy Orthopaedics, Inc.*, 870 F.3d 345, 350 (5th Cir. 2017) (citation omitted). Mandamus is only granted in extraordinary situations to correct a “clear abuse of discretion” or “usurpation of [judicial] power.” *Id.* at 350, 357. “If the facts and circumstances are *rationally capable* of providing reasons for what the district court has done, its judgment based on those reasons will not be reviewed.” *In re Volkswagen of Am., Inc.*, 545 F.3d 304, 312 n.7 (5th Cir. 2008) (emphasis added) (citing *McGraw-Edison Co. v. Van Pelt*, 350 F.2d 361, 363 (8th Cir. 1965). Only where “it is made clearly to appear” that the decision lacks “*any basis*” “in the facts and circumstances” of the case will this Court second-guess the district court’s ruling. *Id.*; see *Vistaprint*, 628 F.3d at 1347 (mandamus warranted only if there is “only one correct outcome”).

FACTUAL BACKGROUND

I. Asserted Patents and Accused Products

This case involves BBiTV’s patented technology for delivering video content to viewers, and for converting, navigating, and displaying video content uploaded from the Internet on a digital TV video-on-demand platform. BBiTV asserts four

patents against DISH: U.S. Patent Nos. 10,028,026 (“’026 Patent”), 10,506,269 (“’269 Patent”), 9,998,791 (“’791 Patent”), and 9,648,388 (“’388 Patent”). The asserted claims are directed to, among other things, “set-top boxes” that receive content for viewing from a provider’s “video-on-demand content delivery system.” For the ’388 Patent, ’791 Patent, and ’026 Patent, BBiTV alleges infringement by DISH’s set-top boxes (“STBs”), including the Hopper 3, Hopper w/ Sling, Hopper, Hopper Duo, Wally, 4K Joey, Wired Joey, Wireless Joey, Super Joey, all of which provide subscribers with access to DISH’s video-on-demand service. Appx505-533, Appx564-575; Appx104-105; Appx161-162; Appx183-184; Appx32-33, ¶12; Appx53, ¶60; Appx63, ¶84. As to the ’269 Patent, BBiTV accuses DISH’s video-on-demand service and device apps, such as DISH’s DISH Anywhere app.

II. Procedural History

On December 19, 2019, BBiTV filed the Complaint in this case (No. 6:19-cv-716) in the U.S. District Court for the Western District of Texas. Venue is proper in the district. DISH’s operations in the Western District of Texas relate directly to the accused STBs. DISH has facilities in the district that warehouse, “remanufacture,” refurbish, and service the accused STBs (*i.e.*, receivers). Appx187-88, ¶7. These facilities provide billing and purchasing services where customers can buy DISH services, including the accused STBs. Appx187, ¶6. DISH also has sales and

distribution centers in Austin and Waco for the accused STBs. Appx605-618, Appx619-628.

The Western District of Texas is also directly linked to DISH's processing and delivery of video-on-demand content through the STBs, which are at the core of the infringement case asserted against DISH. DISH's locations at Mustang Ridge and New Braunfels, within the district, "receive program content . . . so that it can be processed and uplinked to satellites so that it may ultimately be delivered to consumers," which is directly relevant to the four patents-in-suit that relate to the processing and delivery of video-on-demand services to the STBs. Appx187-88, ¶7; Appx104-5; Appx138-39; Appx161-62; Appx183-84.

DISH has litigated patent-infringement cases involving many of the same accused products in the Western District without seeking transfer. *See* First Amended Complaint ¶ 41, *Multimedia Content Management Mgmt. LLC v. DISH Network Corp.*, No. 6:18-cv-00207-AD, (W.D. Tex. Oct. 7, 2019), ECF No. 97 at ¶ 41; Second Amended Complaint ¶ 23, *Contemporary Display, LLC v. DISH Network L.L.C.*, No. 1-18-cv-00476-LY, (W.D. Tex. Sept. 19, 2018), ECF No. 31 ¶ 23; Appx505; Appx472.

When the Complaint was filed, there were already *two* co-pending cases in the Western District of Texas involving the same patents that are being asserted against DISH. These litigation are against (1) DirectTV in which the *same four*

*patents*¹ are asserted and (2) the AT&T Defendants in which *three of the same patents* (*i.e.*, the '026 Patent, '791 Patent, '388 Patent) are asserted.² The cases against the AT&T Defendants and DirectTV have since been consolidated.³ A case against Amazon.com, Inc. is also co-pending in the Western District of Texas asserting three of the same patents (*i.e.*, the '026 Patent, '269 Patent, and '388 Patent). None of those defendants contested venue or sought transfer outside of the Western District of Texas. *See* ECF 19, ¶8, in No. 19-cv-714 (DirecTV); ECF 25, ¶8 in No. 19-cv-712 (AT&T); ECF 27, ¶12 in No. 20-cv-921 (Amazon).

DISH did not contest venue and “admit[ted] that venue is proper for this action in this district under 28 U.S.C. §1400(b).” Appx484, ¶7. However, it sought transfer to the District of Colorado under 28 U.S.C. §1404(a). Appx1. DISH argued that relevant witnesses and documents were in that district. *Id.* In the alternative, it sought an intra-district transfer to the Austin Division. Appx12-13. The district court found convenience factors to weigh slightly in favor of transfer but found that the judicial economies to be gained by addressing this case alongside the co-pending

¹ *Broadband iTV, Inc. v. DirecTV, LLC*, No. 61:1920-cv-00714-ADA (W.D. Tex. filed Dec. 19, 2019).

² *Broadband iTV, Inc. v. AT&T Services, Inc. and AT&T Commc’ns LLC*, No. 61:1920-cv-00712-ADA (W.D. Tex. filed Dec. 17, 2019).

³ *Broadband iTV, Inc. v. AT&T Services, Inc., AT&T Commc’ns LLC, and DirecTV, LLC*, No. 6:20-cv-00717-ADA (consolidated case).

“parallel litigation concerning the same patents” “strongly weigh[ed] against transfer.” Appx10. The district court also found that the speed with which the case could proceed to trial weighed in favor of denying transfer. Appx11. The district court therefore denied transfer. Appx13. Because the Austin courthouse was not open due to COVID, the court denied the intra-district transfer, but without prejudice to DISH refiling that request. *Id.*

ARGUMENT

Courts in the Fifth Circuit analyze motions to transfer for convenience under §1404(a) by evaluating certain “public and private” factors. *Vistaprint*, 628 F.3d at 1344. In *Vistaprint* (which also concerned Fifth Circuit law), this Court ruled that the public interest in judicial efficiency can justify denying transfer, even if other factors favor transfer. The district court here reasonably concluded that judicial economy was best served by keeping DISH’s case together with co-pending cases involving the same patents, and that efficiency considerations warranted denying transfer. The court’s findings that various other factors were either neutral or only slightly favored transfer were not erroneous. And its decision that the judicial-economy factor was “paramount,” and outweighed any minor interests in transfer shown by DISH, was well within its discretion regardless. *Id.* at 1346. DISH cannot show a “‘clear and indisputable’ right” to transfer for convenience as required for mandamus. *Id.* at 1344.

III. Interests of Judicial Economy Justified Denying Transfer

A. The District Court Reasonably Concluded That the Efficiencies of Hearing DISH's Case Together With Other Cases Involving the Same Patents and Similar Products Warranted Denying Transfer

1. Courts have long held that “judicial economy and efficiency” weigh heavily in the “§1404(a) analysis.” *Vistaprint*, 628 F.3d at 1346 (citing *Cont'l Grain Co. v. Barge FBL-585*, 364 U.S. 19, 26 (1960)); *In re Canrig Drilling Tech., Ltd.*, No. 2015-139, 2015 WL 10936672, at *1–2 (Fed. Cir. Aug. 7, 2015) (“This court has repeatedly noted that judicial economy may play a prominent role in a district court’s transfer analysis.”). When a district court has before it “multiple lawsuits involving the same issues,” interests of economy and efficiency can be furthered by keeping the cases in the same district for streamlined resolution of common issues. *In re Volkswagen of Am., Inc.*, 566 F.3d at 1349, 1351 (Fed. Cir. 2009). In patent-infringement actions, major “gain[s] in judicial economy” can result from keeping suits “involving the same patent and underlying technology” together. *Vistaprint*, 628 F.3d at 1345-46, 1347 n.3. Issues of claim construction and validity can be addressed in consolidated proceedings, and a single district court can gain familiarity with complex patented technologies that it can apply across all the cases. *See* 6 Annotated Patent Digest (Matthews) §39.128 (2021) (discussing consolidation of actions asserting same patents to “promote judicial efficiency”). In view of those benefits, this Court has held that a district

court can treat “judicial economy” as a “*paramount consideration*” that justifies denying transfer, “*even if the convenience factors call for a different result.*” *Vistaprint*, 628 F.3d. at 1347 (quoting *Volkswagen*, 566 F.3d at 1351) (emphasis added). The district court properly applied that precedent to deny transfer here. Appx10.

BBiTV filed patent-infringement suits against DISH and three other defendants in the Western District of Texas: AT&T, DirecTV, and Amazon. All four of the patents-in-suit asserted against DISH are also asserted against DirectTV; three of the four are asserted against AT&T and Amazon. The accused products in these cases are also similar: hardware devices for playing video-on-demand on televisions, such as set-top boxes and media players. *See* No. 19-cv-712, ECF 1, ¶¶1-2; No. 19-cv-714, ECF 1, ¶¶1-2; No. 20-cv-921, ECF 1, ¶¶1-2.

In assessing judicial economy in connection with DISH’s transfer motion, the district court observed that the cases “involve overlapping issues, such as claim construction, invalidity, prior art, conception, and reduction to practice.” Appx9-10. Indeed, it conducted consolidated claim construction proceedings in which it ruled on the constructions of nineteen different claim terms, along with indefiniteness defenses. Appx499-503. The court recognized that transferring DISH’s case to the District of Colorado “would lead to two separate cases in two separate Courts about the same claims in the same patents.” Appx10. That would not only create

“disruption in judicial economy,” but also the “possibility of obtaining inconsistent rulings.” Appx10. The court thus concluded that judicial economy “strongly weighs against transfer.” *Id.*

Under this court’s precedent, that was not abuse of discretion. *Volkswagen* is instructive. There, plaintiff MHL sued several auto companies for patent-infringement in the Eastern District of Texas. 566 F.3d at 1350. Volkswagen sought to transfer the case to the Eastern District of Michigan, a request that the Texas court denied. *Id.* This Court denied mandamus because of “the judicial economy that would result from having one court decide all of these related patent issues.” *Id.* at 1351. It noted that the “existence of multiple lawsuits involving the same issues is a paramount consideration when determining whether a transfer is in the interest of justice.” *Id.* In that case, there was a “significant overlap and a familiarity with the patents” on the part of the district court that “could preserve time and resources.” *Id.* This Court held that, because the “district court’s decision is based on the rational argument that judicial economy is served by having the same district court try the cases involving the same patents, mandamus is inappropriate.” *Id.*

The Court applied similar reasoning in *Vistaprint*. ColorQuick sued Vistaprint and OfficeMax for patent infringement in the Eastern District of Texas. 628 F.3d at 1343. It also sued another defendant in the same district on the same patents. *Id.* at 1344. Defendants sought a transfer to the District of Massachusetts,

where a Vistaprint subsidiary was based. *Id.* The Texas court found that convenience considerations weighed in favor of transfer, but denied transfer anyway, citing benefits to judicial efficiency from hearing the case together with the co-pending litigation. *Id.* at 1344.

This Court denied mandamus. It rejected the argument that the “convenience factors are deserving of ‘most importance’” under §1404, and held that the district court was not required to deny transfer despite finding that the convenience factors weighed in favor of transfer. 628 F.3d at 1345, 1347. Instead, this Court ruled, “it is entirely within the district court’s discretion to conclude that in a given case. . . judicial economy can be of ‘paramount consideration,’” and warrants denying transfer, “even if the convenience factors call for a different result.” *Id.* at 1347 (citation omitted). This Court also upheld the trial court’s finding that “the gain in judicial economy from keeping this case in the Eastern District of Texas is more than negligible.” *Id.* at 1346. It did not “appear on its face erroneous to conclude,” this Court stated, “that maintaining these two cases before the same court may be beneficial from the standpoint of judicial resources.” *Id.* at 1344. Finding the trial court’s findings “plausible” in view of the “record,” this Court refused to “second guess” its determinations. *Id.* at 1347.

Here, as in *Volkswagen* and *Vistaprint*, there is ample, plausible support for the district court’s finding that judicial economy “strongly weigh[ed] against

transfer.” Appx10. Thus, as in *Volkswagen* and *Vistaprint*, it was “entirely within the district court’s discretion to conclude” that “judicial economy [is] of ‘paramount consideration,’” and warrants denying transfer, “even if the convenience factors call for a different result.” *Vistaprint*, 628 F.3d at 1347. As a result, as in *Volkswagen* and *Vistaprint*, the extraordinary remedy of mandamus is unwarranted and should be denied. *See Vistaprint*, 628 F.3d at 1347; *Volkswagen*, 566 F3d at 1350-52.

B. DISH’s Contrary Arguments Misapprehend the Law and Facts

1. The district court was plainly permitted to prioritize judicial economy over DISH’s *convenience* under §1404(a). DISH therefore tries to make the dispute seem like it’s about whether the Western District of Texas is a *proper venue*, asserting that “this dispute has no connection whatsoever to Texas,” and complaining its “rights are being eroded” by having to litigate “in a forum with no connection to the case.” Pet.2. But if the Western District of Texas really had “no connection” to this case, *see id.* at 2, 3, 24, 27, 31, DISH could have sought dismissal for improper venue. It did not. DISH “admit[ted] that venue is proper for this action in this district under 28 U.S.C. §1400(b).” Appx484, ¶7. So did the other defendants. *See* ECF 19, ¶8, in No. 19-cv-714 (DirecTV); ECF 25, ¶8 in No. 19-cv-712 (AT&T); ECF 27, ¶12 in No. 20-cv-921 (Amazon).

In reality, this case has strong ties to the Western District of Texas. DISH has a regional broadcast center—one of just four in the U.S.—in New Braunfels, Texas.

It also has a micro broadcast center in Mustang Ridge. These facilities are intimately connected to infringement—they “receive program content . . . so that it can be processed and uplinked to satellites so that it may ultimately be delivered” to the very set-top boxes accused in this case. Appx187-88, ¶7; Appx104-5; Appx138-39; Appx161-62; Appx183-84.

DISH also has facilities in the district that “make” and “sell” the accused set-top boxes. One warehouse “remanufacture[s],” refurbishes, and services accused set-top boxes. Appx187, ¶6. It provides billing and purchasing services where customers can buy DISH services, including the accused set-top boxes. *Id.* DISH has sales and distribution centers in Austin and Waco relating to the accused set-top boxes. Appx606-618, Appx619-628. These facilities employ over 1,000 people in the district. DISH’s presence in the district is both substantial and directly linked to DISH’s infringement of BBiTV’s patents.

Glossing over all of that, DISH focuses on a few software developers in Colorado who worked on electronic program guides and metadata. Pet.4-5. But the software is just one aspect of the asserted claims. The claims cover hardware, such as set-top boxes, internet-connected digital devices (which can be set-top boxes), video content delivery systems having one or more computers, and remote controls. Appx505-533, Appx564-575; Appx104-105; Appx161-162; Appx183-184;

Appx32-33, ¶12; Appx53, ¶60; Appx63, ¶84. Those hardware products are made and sold out of facilities in the Western District of Texas.

In other litigations involving the many of the same accused set-top boxes, DISH never sought transfer undermining its assertions here. *See* First Amended Complaint ¶ 41, *Multimedia Content Mgmt. LLC v. DISH Network Corp.*, No. 6:18-cv-00207-AD, (W.D. Tex. Oct. 7, 2019), ECF No. 97; and Second Amended Complaint ¶ 23, *Contemporary Display, LLC v. DISH Network L.L.C.*, No. 1-18-cv-00476-LY, (W.D. Tex. Sept. 19, 2018), ECF No. 31; Appx505; Appx472. DISH also requested a transfer to Austin as alternative relief below, confirming that it would not be burdensome for DISH to litigate this case in this district.

2. DISH also relies on an incorrect legal standard regarding transfer under §1404(a). It asserts that “witness convenience is the single most important factor in the transfer analysis.” Pet.13 (quotation marks omitted); *see id.* at 12 (witness convenience is “determinative”). It suggests that judicial economy “rarely defeats” the defendant’s convenience. Pet.12. DISH argues that the district court’s supposed misbalancing of that factor “alone” “warrants mandamus relief.” Pet.20-21. As explained above (at 9-13), this Court has held otherwise. In *Vistaprint*, this Court underscored the “paramount role” “judicial economy and efficiency play in a §1404(a) analysis.” 628 F.3d at 1346 (citing *Cont’l Grain*, 364 U.S. at 26). This Court thus held that a district court is entitled to deny transfer “to preserve judicial

economy” even “when ***all of the convenience factors*** clearly favor transfer.” *Id.* at 1345 (emphasis added); *see also Volkswagen*, 566 F.3d at 1351; *In re Vicor Corp.*, 493 F. App’x. 59, 61 (Fed. Cir. 2012); *Canrig* 2015 WL 10936672 at *1–2; pp. 9–13, *supra*. Consistent with that, this Court has consistently denied mandamus where non-negligible judicial economy benefits were the basis of the district court’s denial of transfer. *See Vistaprint*, 628 F.3d at 1344–47; *Volkswagen*, 566 F.3d at 1350–52; *Canrig*, 2015 WL 10936672, at *1–2; *Vicor*, 493 F. App’x 59 at 61.

3. *In re Zimmer Holdings, Inc.*, 609 F.3d 1378 (Fed. Cir. 2010), and *In re Google*, 2017 WL 977038, *1 (Fed. Cir. 2017) are inapposite. Pet.22–23. First, those cases were decided before *TC Heartland*. Prior to that decision, patent suits could be brought in a district simply because an accused infringer “ship[ped] [] allegedly infringing products” into the district. *TC Heartland*, 137 S. Ct. at 1517. Both *Zimmer* and *Google*, therefore, involve situations where the defendant had virtually no connection to the district. In *Zimmer*, this Court relied heavily on the fact that “the only connection between this case and the plaintiff’s chosen forum is a legal fiction.” *Zimmer*, 609 F.3d at 1382. In *Google*, the district court relied on co-pending litigation involving other defendants to justify denial of transfer, but ***none of the defendants*** appeared to have any connection to the district, and all the defendants sought transfer to the *same* district. 2017 WL 977038, at *1. The district court had bootstrapped venue: “Having previously denied Walmart’s transfer

motion principally on the basis of Google and Amazon’s pending suits, the district court then proceeded to deny Google’s transfer motion in large part because of Walmart and Amazon’s pending litigation.” *Id.* at *2. The venue manipulation in *Zimmer* and *Google* was possible because, prior to *TC Heartland*, a patent case could survive a motion to dismiss for improper venue on the thinnest grounds.

This case does not involve any attempt to “manipulate venue.” *Vistaprint*, 628 F.3d at 1346. Here, all defendants admitted venue was proper in their answers under *TC Heartland*, 137 S. Ct. at 1519. Moreover, unlike in *Google*, DISH is the only one of the four defendants to seek, highlighting the strong connection of all four cases to the district. The connection between the Western District of Texas, and DISH’s infringement, is undeniable. *See* pp. 5-6, 13-15, *supra*. This case, and the set of four cases filed in the district, do not involve any attempt by BBiTV to “manipulate venue.” However, DISH’s attempt to shop for what it perceives as a more favorable forum in Colorado and decouple that case from the other three cases is an attempt to manipulate venue.

Zimmer differs in another key respect. There, this Court found that judicial economy benefits would be “negligible” because the co-pending litigations involved only one overlapping patent (out of 15), and the accused products were different. *Zimmer*, 609 F.3d at 1382; *see Vistaprint*, 628 F.3d at 1344 (characterizing *Zimmer* as holding that “where the convenience factors strongly weigh in favor of the

transferee venue, a decision to deny transfer based solely on ‘negligible’ judicial efficiencies may be such a clear abuse of discretion”). In this case, by contrast, the judicial economies resulting from keeping cases together is anything but “negligible.” All four of the patents-in-suit against DISH are involved in co-pending litigations in the same district. *See* pp. 6-7, *supra*. There are overlapping issues of claim construction, invalidity, prior art, conception, and reduction to practice with respect to all four patents-in-suit across the co-pending litigations. The judicial efficiencies of having one judge preside over these issues in all of the co-pending litigations thereby avoids the wasteful duplication of judicial resources that would occur if these same issues were to be decided by different courts, and forecloses the possibility of inconsistent decisions.

IV. The Convenience Factors Do Not Require Mandamus

When evaluating a request for transfer under § 1404(a), courts must “balance” judicial economy against “convenience.” *Vistaprint*, 628 F.3d at 1346. Fifth Circuit law assesses convenience using several private and public interest factors. The private interest factors are “(1) the relative ease of access to sources of proof; (2) the availability of compulsory process to secure the attendance of witnesses; (3) the cost of attendance for willing witnesses; and (4) all other practical problems that make trial of a case easy, expeditious and inexpensive.” *In re Volkswagen AG*, 371 F.3d 201, 203 (5th Cir. 2004). The public interest factors are: “(1) the administrative

difficulties flowing from court congestion; (2) the local interest in having localized interests decided at home; (3) the familiarity of the forum with the law that will govern the case; and (4) the avoidance of unnecessary problems of conflict of laws [or in] the application of foreign law.” *Id.* The movant must show that the transferee venue is “clearly more convenient than the venue chosen by the plaintiff”; otherwise, “the plaintiff’s choice” of venue “should be respected.” *Volkswagen*, 545 F.3d at 315.

DISH’s protestations about inconvenience lack credibility. DISH has litigated other patent-infringement cases involving the same accused set-top boxes in the Western District of Texas, without seeking transfer. See pp. 6, 15, *supra*. Its request that the case be transferred intra-district to the Austin division confirms that DISH will not be unduly burdened by litigating in this district. In any event, DISH shows no reversible error in the district court’s convenience analysis. Where, as here, there is a “plausible” showing “that denial of transfer would preserve judicial economy,” a district court need not grant transfer even if “all the convenience factors clearly favor transfer.” *Vistaprint*, 628 F.3d at 1344. As explained above (at 9-13), that is the case here. This Court will only “second guess” a trial court’s decision to prioritize judicial economy over convenience when the showing of convenience is “overwhelming.” *Id.* at 1347. DISH fails to make any anything approaching an

“overwhelming” showing that convenience requires this case to be litigated in Colorado.

A. DISH’s Litigation History Belies Its Claims of Inconvenience

As explained above, this is not the first patent-infringement action DISH has litigated involving the set-top boxes accused in this case. In two other cases, DISH chose to litigate in the Western District of Texas without seeking transfer. *See* p. 6, *supra*. Moreover, DISH all but concedes that the Western District of Texas would not be an overly burdensome venue by seeking an intra-district transfer to the Austin division as alternative relief below. Pet.7 n.3; *see* Appx194, Appx207-208.⁴

In view of those facts, DISH simply cannot make the required showing. DISH cannot, on one hand, choose to litigate similar cases involving the same products in the Western District of Texas, and also request transfer to another courthouse in the same district, and then credibly claim that there are “overwhelming” reasons why it should not be required to litigate this case in this district.

⁴ BBiTV does not oppose transfer to Austin. Appx459; Appx461. The district court denied transfer without prejudice because the Austin courthouse was closed. Appx12-13. Such a transfer would obviate the convenience concerns DISH raises in its petition. *See In re Apple Inc.*, 818 F. App’x 1001, 1003 (Fed. Cir. 2020) (“Nor can Apple now take back its previous assertion to the district court that the Austin Division is ‘clearly more convenient’ than the Waco Division . . . Given that Apple received a transfer to its second-most convenient venue, it is difficult to accept Apple’s assertion that the result here is patently erroneous.”).

B. The Convenience Factors Do Not Favor Transfer*1. It Is Equally Convenient To Access Sources of Proof from Both Districts*

DISH failed to supply evidence that it would be intolerably inconvenient to produce relevant evidence in the Western District of Texas. With respect to a large class of documents, it failed to supply any evidence about location at all. Fairly evaluating the record, the district court reasonably concluded that this factor is neutral. DISH now strains to mischaracterize the court's reasoning to fill its own evidentiary gap.

DISH's sole evidence on this factor was an employee declaration claiming that documents related to accused "software functionalities" (and some related financial records) "are stored electronically" in Colorado. Appx187. The declaration omitted any mention of documents related to hardware products—which are highly relevant to this case. Appx505-533, Appx564-575; Appx104-105; Appx161-162; Appx183-184; Appx32-33; Appx53; Appx63; *see also* pp. 4-5, 14, *supra*.

There is circumstantial evidence that documents related to the accused set-top boxes (and perhaps physical evidence) are in the Western District of Texas. DISH admits that its El Paso facility remanufactures, refurbishes, and services accused set-top boxes. Appx187. Evidence at this location may well be relevant. DISH admits to operating facilities in Mustang Ridge and New Braunfels that maintain uplinks to satellites for distributing data ultimately made available to the accused set-top boxes.

The evidence at these facilities is also relevant because all the patents-in-suit relate to the processing and delivery of video content. Appx104-105; Appx138-139; Appx161-162; Appx183-184; Appx187-88. It was well within the district court's discretion to conclude that the evidence at these facilities outweighs the fact that certain other documents are stored in Colorado, especially where the Colorado documents are stored in electronic form.

DISH misreads the district court's order in complaining (Pet.21-22) that the court ruled against it solely because the court viewed "the focus on physical location of electronic documents" as "out of touch with modern patent litigation." Appx5. To the contrary, the court explained that the location of these documents "does affect the outcome of this factor under current Fifth Circuit precedent." *Id.* The district court ruled against DISH not because it ignored that precedent but because DISH failed to allege, much less prove, that "it would be difficult or burdensome to make such electronic documents available in" the Western District of Texas. Appx6. The court was well within its discretion to assess the evidence before it and conclude, based on the circumstances of this case, that it was equally convenient to access documents in both districts.

2. *The Availability of Compulsory Process To Secure the Attendance of Witnesses Does Not Favor Transfer*

In explaining why compulsory process may be necessary, DISH points to two classes of non-party witnesses: former engineers and prior-art witnesses. Pet.14; Appx199-201. The district court reasonably rejected DISH's arguments. Appx6-8.

First, DISH failed to show that any of the witnesses it seeks to call would be unwilling to testify. Appx6-Appx7. Under governing Fifth Circuit law, “[w]hen no witness’ unwillingness has been alleged or shown, a district court should not attach much weight to the compulsory process factor.” *Indusoft, Inc. v. Taccolini*, 560 F. App’x 245, 249 (5th Cir. 2014), as revised (Mar. 20, 2014) (citation omitted); *see also Weber v. PACT XPP Techs., AG*, 811 F.3d 758, 766 (5th Cir. 2016); *Perforaciones Exploracion Y Produccion v. Maritimas Mexicanas, S.A. de C.V.*, 356 F. App’x 675, 679 n.3 (5th Cir. 2009); *In re Rolls Royce Corp.*, 775 F.3d 671, 678 n.29 (5th Cir. 2014).⁵ With no showing that any third-party witnesses were unwilling, the district court appropriately discounted the relevance of the District of Colorado’s subpoena power to this litigation.⁷

⁵ Other circuits are in accord. *See DiFederico v. Marriott Int’l, Inc.*, 714 F.3d 796, 806-07 (4th Cir. 2013); *Duha v. Agrium, Inc.*, 448 F.3d 867, 877 (6th Cir. 2006); *Carijano v. Occidental Petroleum Corp.*, 643 F.3d 1216, 1231 (9th Cir. 2011); *In re Barnes & Noble, Inc.*, 743 F.3d 1381, 1383 (Fed. Cir. 2014).

⁷ DISH’s refusal to provide deposition dates during fact discovery for former employees (e.g., Mr. Gerhards and Mr. Milligan) indicates that it has no intention of calling these witnesses at trial. DISH’s counsel accepted service of subpoenas for

Continued . . .

In re HP Inc., No. 2018-149, 2018 WL 4692486 (Fed. Cir. Sept. 25, 2018), is not to the contrary. There, the Court criticized the lower court's reasoning as out of line with *its own* precedent. It did not even mention Fifth Circuit law.

Second, the district court reasonably put little weight on its inability to subpoena prior-art witnesses. Its observation that prior-art witnesses rarely testify at trial, Appx7-8, warrants deference. *In re Apple Inc.*, 818 F. App'x 1001, 1004 (Fed. Cir. 2020) ("Whether individuals or organizations may have relevant information . . . are fact-intensive matters often subject to reasonable dispute. Those determinations are generally entrusted to the discretion of the district court."); *Vistaprint*, 628 F.3d at 1346 ("[A] trial judge has a superior opportunity to familiarize himself or herself with the nature of the case and the probable testimony at trial").⁶

Finally, DISH asserts that alleged prior art witnesses, Mr. Calucci and Mr. Gondor, are in Colorado, but its only evidence are LinkedIn pages. Appx200-201. DISH criticized BBiTV for relying on LinkedIn pages for other witnesses, *see* Appx476, a critique the district court credited in discounting BBiTV's evidence. *See* Appx8. The court discounted DISH's evidence for the same reason. The district

these former employees confirming that they are *under DISH's control* and are *willing* witnesses.

⁶ DISH never took depositions of Mr. Calucci and Mr. Gondor during fact discovery indicating that it never intended to call them at trial.

court also discounted CableLabs because DISH had not identified any potential witnesses there. *Id.* DISH does not dispute the CableLabs finding in its petition.

3. *The Cost of Attendance for Willing Witnesses Only
Slightly Favors Transfer*

The district court reasonably concluded that this factor was either neutral or weighted only slightly in favor of transfer.

First, recognizing the limited time available at trial, the district court noted that, other than experts, “no more than a few party witnesses—and even fewer third-party witnesses, if any—will testify live at trial.” Appx9. “[A] trial judge has a superior opportunity to familiarize himself or herself with the nature of the case and the probable testimony at trial.” *Vistaprint*, 628 F.3d at 1346. DISH has made no showing suggesting this conclusion is flawed, much less an abuse of discretion.

If one or two witnesses would be seriously inconvenienced by travel, “remote witness testimony” or the playing of a recorded deposition can also be sufficient for this factor. Under Fifth Circuit law, the determination that remote testimony or videotaped depositions can suffice in lieu of live testimony is left to the district court’s sound discretion. *See Battle ex rel. Battle v. Mem’l Hosp. at Gulfport*, 228 F.3d 544, 554 (5th Cir. 2000).

DISH’s authorities are not to the contrary. *Aguilar-Ayala v. Ruiz*, 973 F.2d 411 (5th Cir. 1992), involved the concern that a Confrontation Clause objection could lead to the exclusion of deposition testimony in an immigration case. *Id.* at

419-20. That has no application to patent cases, where deposition testimony is routinely introduced at trial. *Charles v. Wade*, 665 F.2d 661 (5th Cir. Unit B 1982), moreover, undermines DISH's position. There, the Fifth Circuit held it was an abuse of discretion for the district court to deny leave to depose a potential witness after the fact discovery period had closed because "the requested deposition would not have been taken for purposes of discovery but as the testimony of a witness unavailable for trial." *Id.* at 664. Insofar as it is relevant at all, *Charles* stands for the proposition that deposition testimony *can suffice* in lieu of trial testimony.

Second, DISH's briefs below identified potential witnesses in Maryland, Utah, and India, not just Colorado. Appx186-187, Appx476-477. Given that potential witnesses would have to travel whether the case was in Colorado or Texas, the district court reasonably concluded that the Colorado was not a "clearly more convenient" venue. Appx13; *see Apple*, 818 F. App'x at 1004 (because the technology at issue was developed by individuals in "San Jose, Irvine, and San Diego, California with '[s]ome engineering support . . . provided by [company's] employees in India,'" the connection to the Northern District of California was not "clearly convincing").

Third, DISH only addresses witnesses connected to software. Appx186-87; Appx197; Pet.14, 20. As explained above, hardware is relevant as well. *See* pp. 4, 5, 14, *supra*. Nothing in the record suggests that the witnesses who know the most

about the hardware are anywhere but the Western District of Texas. This case is thus unlike *In re TracFone Wireless, Inc.*, No. 21-136, 2021 WL 1546036, at *1 (Fed. Cir. Apr. 20, 2021), where “no party identified any witness residing in the Western District of Texas.” DISH did not rebut BBiTV’s contention that there are individuals with knowledge about the accused hardware that reside in the district.

Finally, contrary to DISH’s protestation (Pet.15), the district court did not ignore the convenience of its witnesses. Though the court cited its prior order for the proposition that the “convenience of party witnesses is given little weight,” it did not wholly discount *DISH’s* witnesses’ convenience. Appx8-9. To the contrary, it found that the factor weighed slightly in favor of transfer. *Id.* This Court has previously rejected the same argument. *See Apple*, 818 F. App’x at 1003-04 (“[I]t is not as if the district court applied [its own prior decisions] to tip the scales in favor of non-party witnesses while giving party witnesses little weight. Instead, the convenience of the party witnesses was the determinative consideration here—and, indeed, determinative in [the movant’s] favor.”) There was no abuse of discretion in concluding this factor slightly favored transfer.

4. *There Are Significant Localized Interests in Both Districts*

Finding the local interest factor to be neutral, the district court reasonably concluded that both districts have “connections with the events that gave rise to [a] suit.” *Volkswagen*, 545 F.3d at 318.

DISH again relies on a declaration limited to software engineers. Appx186-187. The claims at issue, however, include set-top boxes, Internet-connected digital devices, and remote controls, Appx505-533, Appx564-575; Appx104-105; Appx161-162; Appx183-184; Appx32-33; Appx53; Appx63, and DISH has supplied no evidence that these are manufactured, designed, serviced, or tested in Colorado. To the contrary, evidence shows that equipment is remanufactured, refurbished, and serviced in the Western District of Texas. DISH's own employee explained that DISH maintains *two* facilities in the Western District of Texas that "receive program content . . . so that it can be processed and uplinked to satellites so that it may ultimately be delivered to consumers." Appx188. That functionality is relevant to the four patents-in-suit, which relate to the processing of video and the delivery of video-on-demand services. Appx187-188; Appx104-105; Appx138-139; Appx161-162; Appx183-184. The district court reasonably concluded that the labors of DISH's more than 1,000 employees in the Western District of Texas "gave rise" to this litigation. *See* Appx12.

This case is thus unlike *In re Apple Inc.*, where the court simply relied on "substantial presences" of the defendant in both the Western District of Texas and the Northern District of California to find the local-interest factor neutral. *In re Apple Inc.*, 979 F.3d 1332, 1344-45 (Fed. Cir. 2020). Here, in addition to noting DISH's large headcount in the Western District of Texas, the court recognized that

DISH has multiple, relevant facilities in the district. Appx12. The very uplinks that stream digital content through the accused set-top boxes are located in the Western District of Texas and not in the District of Colorado. Appx188. The Western District of Texas thus has a substantial localized interest in this dispute—different in kind, perhaps, but not in degree from that of the District of Colorado. The court reasonably concluded that the local-interest factor is neutral. Appx12.

5. *Congestion Weighs Against Transfer*

The district court correctly determined that the congestion factor weights against transfer. In considering court congestion, “what is important is the speed with which a case can come to trial and be resolved.” *Apple*, 979 F.3d at 1343; (quoting *In re Ryze Claims Sols., LLC*, 968 F.3d 701, 710 (Fed. Cir. 2020); *see also*, *In re Genentech*, 566 F.3d 1338, 1347 (Fed. Cir. 2009).

Despite having the burden, the district court observed that “DISH offers ***no evidence*** that this case be resolved faster in the District of Colorado.” Appx10-11 (emphasis added). Perhaps recognizing that historical time to trial statistics are unfavorable to its position, DISH provided no statistics comparing the time to trial in the Western District of Texas and the District of Colorado. However, the average time from filing to trial in the ***District of Colorado is 40.3 months***, or 1,227 days. Appx11 (“[T]he average time to trial in the District of Colorado for patent cases was over 40 months. . .”); Appx620. By comparison, the average time from filing to trial

in the *Western District of Texas is only 25.3 months*. *Apple*, 979 F.3d at 1343. Therefore, because cases come to trial an average of 15 months faster in the Western District of Texas, the district court correctly held that the congestion factor weighed strongly against transfer.

Moreover, the district court found that the specific trial date in this case, November 15, 2021, would lead to a significantly earlier trial date (by about 17 months) than the average time to trial in the District of Colorado, which is about 40.3 months. Appx10-11; Appx26. Therefore, based on the trial date in this case, the congestion factor also weighs heavily against transfer.

The district court further considered the effect of the Covid-19 pandemic. The district court noted that there is “no evidence that the scheduling of this case has been impacted by the Covid-19 pandemic” as it expects to continue having jury trials. Appx11. In contrast, the district court correctly stated that the District of Colorado’s General Order effective March 1, 2021, orders the continuation of all civil trials subject to further order from the presiding judicial officer with the exception of pilot trials and other exceptional circumstances. Appx11n.3 (citing Order available at <https://tinyurl.com/6ycfdra4>). Thus, as a general matter, trials were not proceeding in the District of Colorado at that time. In its discretion, the district court determined that this also weighed against transfer.

DISH's arguments are factually incorrect or contrary to precedent. ***First***, DISH's speculation that the trial date in this case is "aggressive" and unreal is contradicted by the facts. Pet.28-29. The trial date in this case is 23 months from filing of the Complaint, which is consistent with the average time to trial in the Western District of Texas of 25.3 months. *Apple*, 979 F.3d at 1343.

Second, DISH's argument that the higher number of patent cases in the Western District of Texas means it will be slower to trial is speculative and contrary to precedent. The Federal Circuit has held that the fact that one district has more pending cases "is, without more, too tenuously related to any differences in speed by which these districts can bring cases to trial" to be considered in connection with the congestion factor. *Apple*, 979 F.3d 1344. Therefore, this argument fails.

Third, DISH's argument that the district court was "mistaken" in its reading of the District of Colorado's March 31, 2021 Order and that trials were proceeding as normal with less than 10 jurors is a mischaracterization of the Order. In context, the Order is clear that civil trials are continued until further notice with limited exceptions.

ORDERED that, effective March 1, 2021, ***all civil and criminal jury trials scheduled to commence before any district or magistrate judge in any courthouse in the District of Colorado are CONTINUED*** subject to further order of the presiding judicial officer, with the exception of certain pilot trials as authorized by the chief judge. . .

ORDERED that no civil or criminal trial requiring a jury of 10 or more jurors (including alternate jurors) shall be held in the Wayne

Aspinall Courthouse or the courtroom in Colorado Springs. Parties may request that the presiding judge determine whether a non-jury trial or trial to a jury of fewer than 10 may safely proceed in these locations. If so, such trials may proceed in accordance with social distancing and other appropriate measures to ensure the safety of all participants.

Appx11n.3; Pet.31 (citing <https://tinyurl.com/6ycfdra4>) (emphasis added). The Order states that all civil trials are continued subject to further order from the presiding judicial officer with limited exceptions such as the pilot program. Appx11n.3; Pet.31. DISH relies on the statement that, in two specific courthouses in Grand Junction and Colorado Springs, parties could request a bench or jury trial with less than 10 jurors from the presiding judge indicating that any trials are an exception to the rule. However, DISH's briefing suggests the courthouses in Denver or Englewood; and thus this provision would not apply. Appx203.

Therefore, the district court correctly held that the congestion factor strongly weighed against transfer and did not clearly abuse its discretion.

CONCLUSION

Given the extremely high standard for mandamus, this should be an easy case. In *Vistaprint*, this Court held that it “will not second guess” a determination that “the § 1404(a) factors of public interest or judicial economy” are “of ‘paramount consideration,’” in a given case, “even if the convenience factors call for a different result,” “so long as there is plausible support of record for that conclusion.” 628 F.3d at 1347. That should hold here as well. The district court “meaningfully

analyzed the transfer factors,” *In re True Chem. Sols. LLC*, 841 F. App’x 240, 241 (Fed. Cir. 2021), and found that while they slightly favored transfer, judicial economy overwhelmingly favored keeping the case in the district. Even if this Court would “have evaluated some of the factors differently”—which is not its role on a petition for a writ of mandamus—it was not an abuse of discretion for the district court to rule as it did. *In re W. Digit. Techs. Inc.*, 847 F. App’x 925, 927 (Fed. Cir. 2021). The petition for mandamus should thus be denied.

CERTIFICATE OF SERVICE

I electronically filed the foregoing **RESPONSE TO PETITION FOR WRIT OF MANDAMUS** with the Court's CM/ECF filing system, which constitutes service, pursuant to Fed. R. App. P.25(c)(2), Fed. Cir. R. 25(a), and the Court's Administrative Order Regarding Electronic Case Filing 6(A) (May 17, 2012), to all registered CM/ECF users.

June 14, 2021

/s/ Robert Kramer

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**CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME
LIMITATION, TYPEFACE REQUIREMENTS, AND TYPE STYLE
REQUIREMENTS**

1. This brief complies with the type-volume limitation of Federal Rule of Appellate procedure 32(a). The brief contains 7794 words, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(f) and Federal Circuit Rule 32(b).

2. This brief complies with the typeface requirements of the Federal Rule of Appellate Procedure 32(a)(5) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6). The brief has been prepared in a proportionally spaced typeface using Microsoft® Word For Mac 2016 in 14 point Times New Roman.

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No. 21-148

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

IN RE DISH NETWORK L.L.C.,

Petitioner

On petition for Writ of Mandamus to the United States District Court for the
Western District of Texas

No. 6:19-cv-00716-ADA, Hon. Alan D Albright

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Exhibit 1

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)**Infringement Contentions for U.S. Patent No. 9,648,388 vs. DISH**

Plaintiff Broadband iTV, Inc. accuses Defendant DISH Network, L.L.C. (“DISH”) of making, using, offering for sale, and/or selling in the United States and/or importing into the United States DISH’s video on-demand (“VOD”) service and set-top boxes (“STBs”), including the Hopper 3, Hopper w/ Sling, Hopper, Hopper Duo, Wally, 4K Joey, Wired Joey, Wireless Joey, Super Joey, all of which provide subscribers with access to DISH’s video-on-demand service in violation of 35 U.S.C. § 271. The term “Accused Products” includes the associated computer software and data, associated hardware, and processes and methods related thereto. DISH directly infringes U.S. Patent No. 9,648,388 (the “’388 Patent”) by making, using, offering for sale, selling in and/or importing into the United States the Accused Products, which meet each and every limitation of the claims as shown in the charts below. DISH may have infringed and continues to infringe the ’388 Patent through other software and devices utilizing the same or reasonably similar functionality, including other versions of the Accused Products. Dish is therefore liable for infringement under 35 U.S.C. § 271(a).

DISH induces infringement of the ’388 Patent by providing to third parties including users, customers, agents and others the Accused Products to utilize in an infringing manner, as charted below. DISH intends to cause infringement by such third parties as DISH instructs and/or controls and directs third parties to use the Accused Products in an infringing manner, including without limitation by instructing the users to operate DISH products. DISH manifests this intent by providing support services for the Accused Products, including providing instructions, guides, online materials. See, e.g., <https://my.dish.com/support/products/hopper/how-to>, <https://my.dish.com/cms-files/support/products/hopper/joeywired/setupguide-joey3.pdf>, and <https://my.dish.com/support/services/tv/pay-per-view/how-to-order>. DISH further manifests this intent by providing technical support for the Accused Products, including providing instructions, guides, online materials and technical support, such as those located at <https://my.dish.com/support>. See also the cited manuals and instructions identified below in connection with claim 1. DISH is therefore liable for infringement of the ’388 Patent under 35 U.S.C. § 271(b).

DISH contributes to infringement of the ’388 Patent by providing its video-on-demand service to users, which in combination with a subscriber device, such as a STB, satisfy each and every limitation of the charted claims, as charted below. The combination of the VOD service and the STBs constitute a material portion of the invention and has no substantial non-infringing uses. DISH knows portions of the Accused Products to be especially made or especially adapted for use in infringement of the ’388 Patent, and not to be staple articles, and not to be commodities of commerce suitable for substantial noninfringing use. To the extent DISH STBs are manufactured by third-party vendors, DISH contributes to infringement of the ’388 Patent by providing material parts of the invention, including EPG software loaded onto the STBs. The third-party vendor infringes claims of the ’388 patent by making, using (e.g., testing), offering for sale, and/or selling in the United States STBs that use DISH’s EPG software to access DISH’s VOD platform, in

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

violation of 35 U.S.C. § 271(a). DISH knows the EPG software to be especially made or especially adapted for use in infringement of the '388 Patent, and not to be staple articles, nor commodities of commerce suitable for substantial noninfringing use. DISH is thereby liable for infringement of the '388 Patent under 35 U.S.C. § 271(c).

The asserted claims include elements that are implemented, at least in part, by proprietary and specialized electronics, firmware and software in the Accused Products. The precise designs, processes, and algorithms used in them are held secret, at least in part, and are not publicly available in their entirety. An analysis of DISH's documentation and/or source code may be necessary to fully and accurately describe all infringing features and functionality of the Accused Products and, accordingly, Plaintiffs reserve the right to supplement these contentions once such information is made available to Plaintiffs. Furthermore, Plaintiffs reserve the right to revise these contentions, including as discovery in the case progresses, in view of any non-infringement arguments DISH may make (e.g., to allege infringement under the doctrine of equivalents), in view of the Court's final claim construction in this action and in connection with the provision of expert reports.

Claim Language	Evidence of Infringement by DISH
1. A set-top box, providing video-on-demand services and operatively connected to TV equipment of a TV service subscriber, programmed to perform the steps of:	<p>To the extent the preamble is limiting, the Accused Products include a set-top box providing video-on-demand services and operatively connected to TV equipment of a TV service subscriber.</p> <p>DISH is a TV service provider and provides its subscribers with Set-Top-Boxes ("STBs") as part of its TV packages.</p> <p>For example, in each of DISH's packages, it advertises a "Smart HD DVR Included."</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

English Packages | Latino Packages

Package	Channels	Price
English Packages	290+ Channels America's Top 250	\$89.99/mo.
Latino Packages	240+ Channels America's Top 200	\$79.99/mo.
English Packages	190+ Channels America's Top 120 Plus	\$69.99/mo.
Latino Packages	190 Channels America's Top 120	\$59.99/mo.

Each package includes:

- Smart HD DVR Included
- FREE Google Voice Remote
- Online Exclusive: Get 2 FREE Google Home Minis

Additional Package Details (+)

View All Channels

[Satellite TV Packages - Compare Packages & Prices. Available at <https://www.dish.com/programming/packages/>. Captured 1/8/2020]

DISH requires users to purchase or lease DISH-compatible equipment in order to receive service. Thus, DISH STBs are operatively connected to TV equipment of a TV service provider.

7. EQUIPMENT

A. Equipment. In order to receive Services, you must purchase or lease certain reception equipment consisting primarily of a DISH-compatible receiver(s) and applicable Smart Card(s), remote control(s), satellite antenna(s) and low noise block converter feed(s) (LNBF) with integrated feed(s) (collectively, "Equipment").

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

[Residential Customer Agreement. Available at <https://www.dish.com/downloads/legal/residential-agreement.pdf>. Captured 1/8/2020]

One example of a DISH STB is the Hopper 3.



[DISH Hopper 3 Receiver Support. <https://my.dish.com/support/receivers/hopper-3>. Captured 1/8/2020]

DISH also makes numerous other STB devices available, including:

Hopper w/ Sling

[<https://mydish.com/support/receivers/hopper-w-sling>. Captured 2/27/2020]

Hopper

[<https://my.dish.com/support/receivers/hopper>. Captured 2/27/2020],

Hopper Duo

[<https://my.dish.com/support/receivers/hopper-duo>. Captured 2/27/2020],

Wally

[<https://my.dish.com/upgrades/products/receivers/wally>. Captured 2/27/2020],

4K Joey

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	<p>[https://my.dish.com/support/receivers/4k-joeys]. Captured 2/27/2020], Wired Joey</p> <p>[https://my.dish.com/support/receivers/wired-joeys]. Captured 2/27/2020], Wireless Joey</p> <p>[https://my.dish.com/support/receivers/wireless-joeys]. Captured 2/27/2020], Super Joey</p> <p>[https://my.dish.com/support/receivers/super-joeys]. Captured 2/27/2020]. DISH may also make other models available, or may have made other models available that are not currently listed on its site.</p> <p>DISH STBs comprise a set-top receiver/DVR and a remote control unit.</p>
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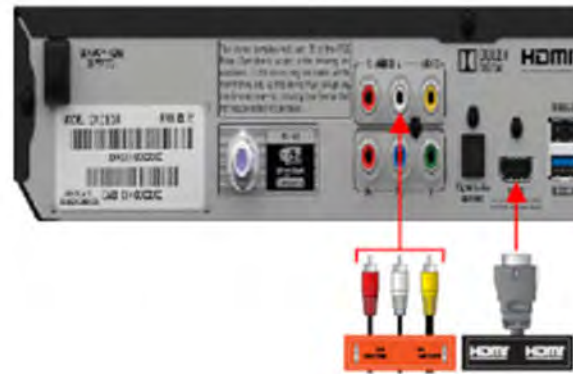
Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

[54-Series DISH Remote Control Overview.

<https://my.dish.com/support/products/remotes/54>. Captured 1/8/2020]

DISH's STB is connected to TV equipment of a TV service subscriber.

DISH provides guides on how to connect its STBs to a user's TV. For example, the guide for a Hopper 3 is shown below.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

B Connect either the RCA cables or the HDMI cable to the corresponding port(s) on your replacement receiver.

[Set Up Your Hopper 3, page 5. Available From <https://my.dish.com/cms-files/support/products/hopper/hopper3/setupguide.pdf>.]

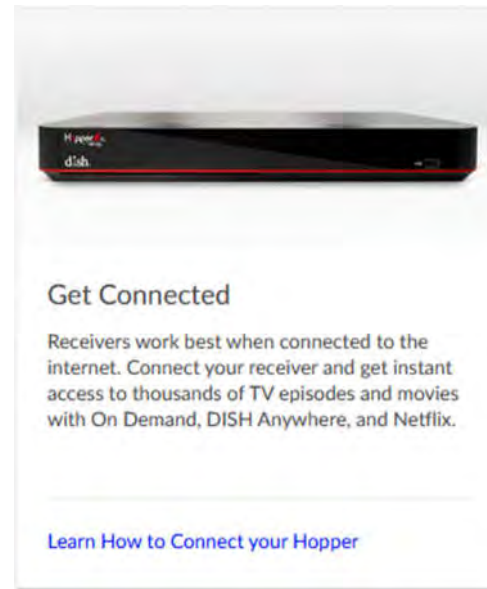
Other Set Up Guides are available for other STB models, such as the Hopper w/ Sling , Hopper, Hopper Duo, Wally, 4K Joey, Wired Joey, Wireless Joey, and Super Joey, available through their individual pages at <https://my.dish.com/support/receivers/overview>.

DISH's STBs provide video-on-demand services.

For example, DISH instructs its users to connect its STBs to the internet and provides guides for how to connect its STBs to the internet. DISH's STBs are part of a video-on-demand (VOD) system. DISH advertises that connecting a STB to the internet will give

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

users access to On Demand content.



[Free On Demand from DISH. <https://my.dish.com/perks/on-demand>. Captured 1/8/2020]

Video Transcript

Hi, I'm Nadine. Let me show you how to find the thousands of movies and shows you have available On Demand with your Internet-connected Hopper, Joey, or Wally.

To see the latest hit movies available to rent, check out channel 1 or channels 501 through 530. Simply select an event and follow the onscreen prompts to order it.

For Pay-Per-View sporting events, look to the 460s in your guide. To preorder an event, go to channels 471 through 474.

To browse free TV shows and movies, go to your receiver's Menu by pressing the Home button twice or Menu button once on your remote. Select the On Demand tile, and then look to "Free Movies" and "Free TV Shows." Select the programming you want to watch, and then "Watch On Demand".

There is also content available to Rent or Buy, depending on the programming.

If you buy programming, you will see it here or in your DISH Anywhere account under "My Purchases." With DISH Anywhere, you can watch your purchased movies wherever you are if you have an Internet connection. For more info on movies for purchase, visit mydish.com/purchase-on-demand.

Thanks for watching, and I'll see you next time. Be sure to check out our other support videos on mydish.com and YouTube to view more cool features of your equipment, learn about your bill, and get troubleshooting support.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

[Order and Watch Pay-Per-View and On Demand Content.

<https://my.dish.com/support/services/tv/pay-per-view/how-to-order>. Captured 3/17/2020]

A guide to connect a Hopper STB to the internet is provided:



[Connect Your DISH Hopper to the Internet.

<https://my.dish.com/support/products/hopper/how-to/pair/receiver-to-internet>. Captured

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

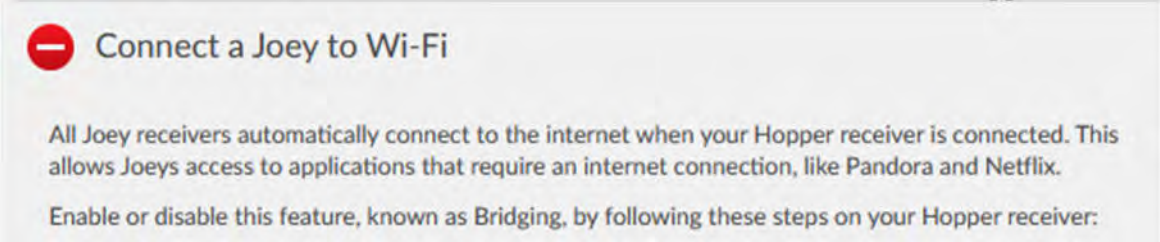
	<p>1/8/2020]</p> <p>STBs such as Joeys (including the Wired Joey, Wireless Joey, Super Joey, and 4K Joey) work in conjunction with a DISH Hopper (including the Hopper, Hopper Duo, Hopper 3, Hopper w/Sling, and Wally) STB. While Hopper STBs connect to the internet directly, Joeys connect to the internet via a Hopper STB. Joeys use their connected Hopper's internet connection and receive all their information from their connected Hopper.</p>  <p>[Connect Your DISH Hopper to the Internet. https://my.dish.com/support/products/hopper/how-to/pair/receiver-to-internet. Captured 1/8/2020]</p>
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Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)


	<div data-bbox="699 256 856 418"></div> <div data-bbox="913 316 1654 357">Re: Wireless Joey won't connect to internet</div> <div data-bbox="913 393 1224 427">Latrishar DISH Employee</div> <div data-bbox="1566 393 1820 427">04-12-2019 // 06:36 AM</div> <div data-bbox="774 492 1717 548"><p>Thank you. I can understand that your Hopper isn't experiencing the issue, however, the Joey receives all of its information from the Hopper.</p></div> <div data-bbox="774 583 1743 639"><p>At your Joey, can you press the Home button three times or the Menu button twice, select Receiver, select Host Receiver. What is listed in the "Host Receiver" field?</p></div> <div data-bbox="774 673 1755 764"><p>At the Hopper, using your DISH remote, press the SAT button, the Home button three times or the Menu button twice, select Status, select Check Status, select Yes. The field "Internet Status" should say "Connected" with a green checkmark. Is that correct?</p></div> <div data-bbox="680 850 1793 959"><p>[Latrishar. Re: Wireless Joey won't connect to internet. Available at https://communities.dish.com/t5/At-Home/Wireless-Joey-won-t-connect-to-internet/td-p/4254/page/3. 4/12/2019. Captured 1/13/2020.]</p></div>
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Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

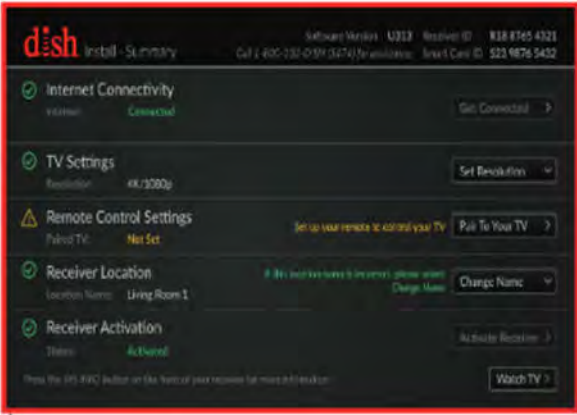
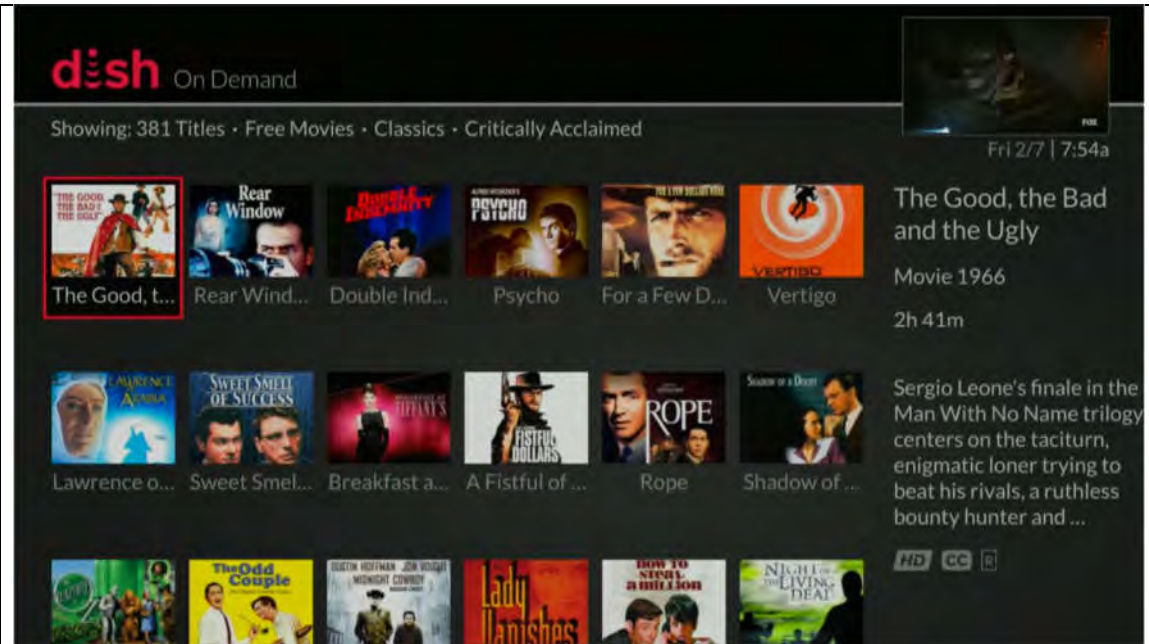
	 <p>B Once your Joey completes the software download, the Install Wizard will advance to the next screen automatically.</p> <p>[Joey Setup Instructions, page 16. https://my.dish.com/cms-files/support/products/hopper/joeywired/setupguide-joey3.pdf. Captured 1/13/2020]</p> <p>An analysis of DISH's source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
(a) receiving, at the set-top box, via a closed system from a video-on-demand content delivery system comprising one or more computers and	The Accused Products are programmed to perform the step of (a) receiving, at the set-top box, via a closed system from a video-on-demand content delivery system comprising one or more computers and computer-readable memory operatively connected to the one or more computers, respective video-on-demand application-readable metadata that is associated with respective video content and is usable to generate a video-on-demand

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

<p>computer-readable memory operatively connected to the one or more computers, respective video-on-demand application-readable metadata that is associated with respective video content and is usable to generate a video-on-demand content menu; wherein the respective video content was uploaded to a Web-based content management system by a respective content provider device associated with a respective video content provider via the Internet in a digital video format along with respective specified metadata including respective title information, category information, and subcategory information designated by the respective video content provider to specify a respective hierarchical location of a respective title of the respective video content within the video-on-demand content menu displayed on the TV equipment, wherein the respective video-on-demand application-readable metadata is generated according to the</p>	<p>content menu; wherein the respective video content was uploaded to a Web-based content management system by a respective content provider device associated with a respective video content provider via the Internet in a digital video format along with respective specified metadata including respective title information, category information, and subcategory information designated by the respective video content provider to specify a respective hierarchical location of a respective title of the respective video content within the video-on-demand content menu displayed on the TV equipment, wherein the respective video-on-demand application-readable metadata is generated according to the respective specified metadata.</p> <p>The DISH video-on-demand system is a closed system proprietary to DISH that uses an encrypted Internet connection to deliver video content and metadata to user equipment. DISH's system comprises one or more computers to which computer-readable memory is operatively connected. The set-top box receives video-on-demand application-readable metadata associated with respective video content that is usable to generate a video-on-demand content menu, such as an illustrative menu showing Critically Acclaimed Classic movies.</p>
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Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

respective specified metadata;



The video content received by the Accused Products was uploaded to a Web-based content management system by a content provider device associated with the video content provider via the Internet in a digital video format.

DISH's STBs receive data via a closed system. DISH's STBs receive data from a video-on-demand content delivery system comprising one or more computers and computer-readable memory operatively connected to the one or more computers.

DISH contracts to have its video on demand services supported through the infrastructure of various vendors. Comcast and Vubiquity are two of such vendors, but there may be others. (These vendors shall be hereinafter collectively referred to as "Infrastructure Service Providers").

Comcast

DISH contracted with CMC to be a Video On Demand Affiliate, so that Comcast could support DISH's Video On Demand operations.

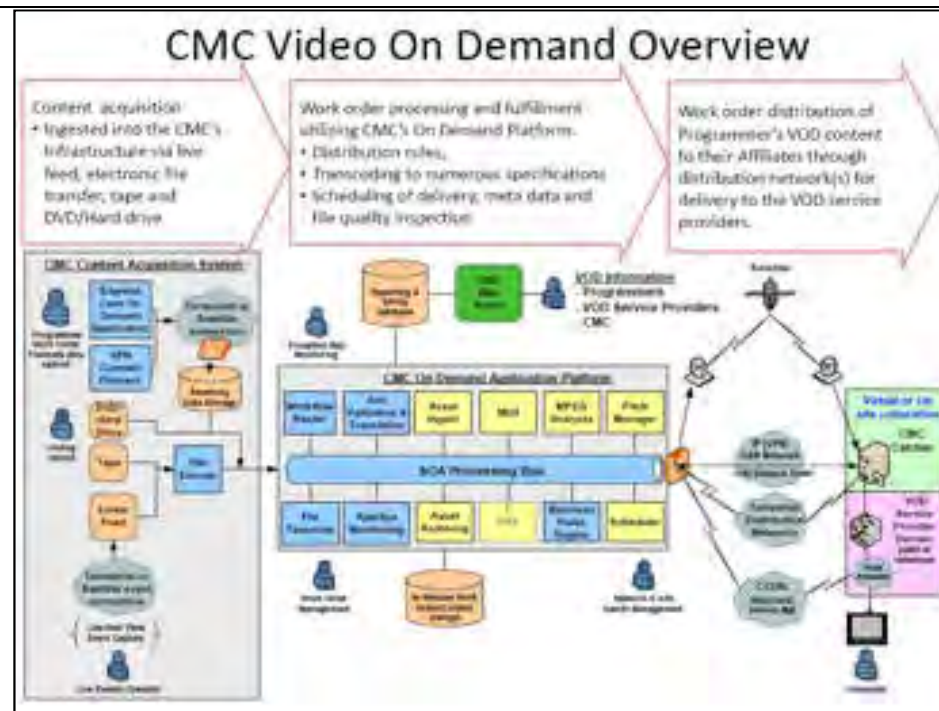
Complaint, Exhibit F (Comcast, 2013)

Appx519

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	<p>FEATURES:</p> <ul style="list-style-type: none"> • Ingest your VOD library from anywhere • Store, process, QA, and distribute your video assets in any format • Monetize your library through: <ul style="list-style-type: none"> • Set-top boxes or TV Everywhere experiences • OTT aggregators and virtual MVPDs • Optimizing C3/C7/D4/D7 windows • A traditional or customized SVOD/TVOD/AVOD solution <p>https://www.comcasttechnologysolutions.com/video-on-demand-vod-solutions-for-content-providers; accessed on 3/28/2020.</p> <p>CMC processes the video content with its Video On Demand system.</p>
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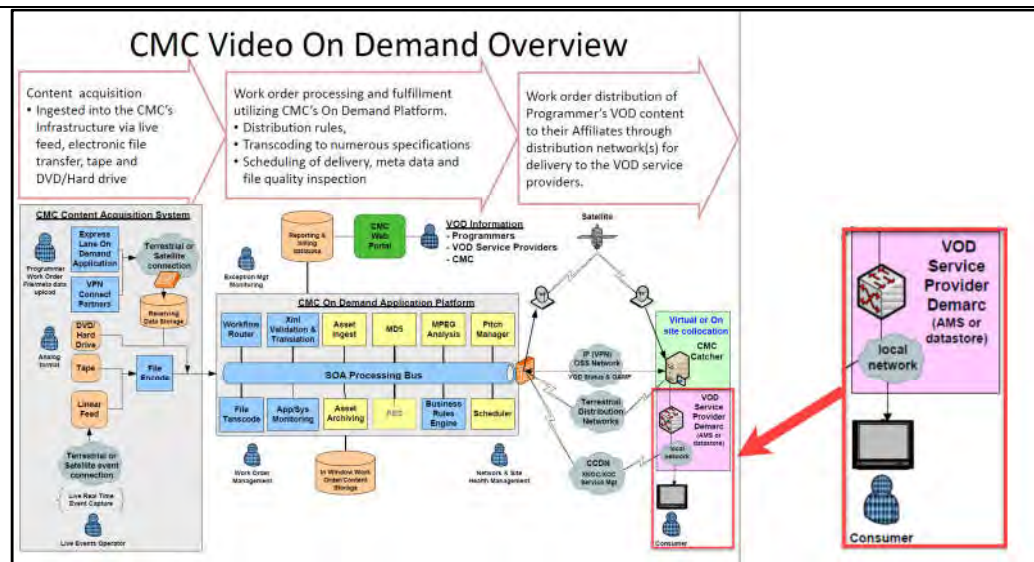
Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



CMC Video On Demand Overview; Comcast, 2010.

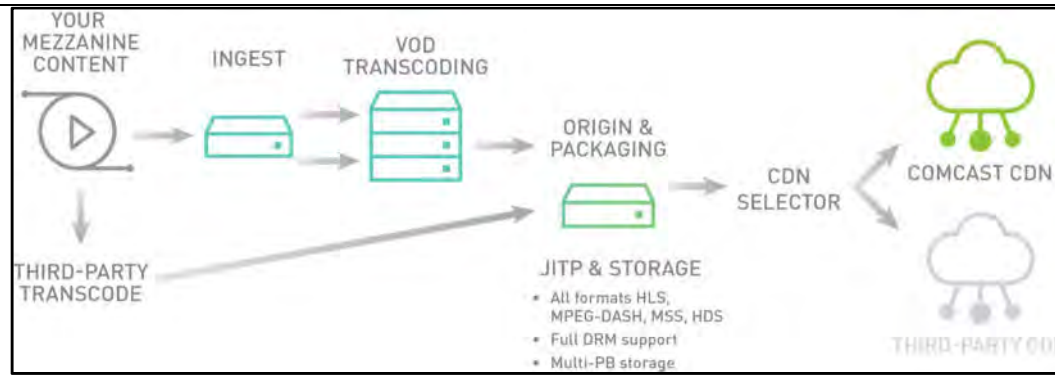
The content is then provided to the subscriber from a server/datastore at a VOD Service Provider.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

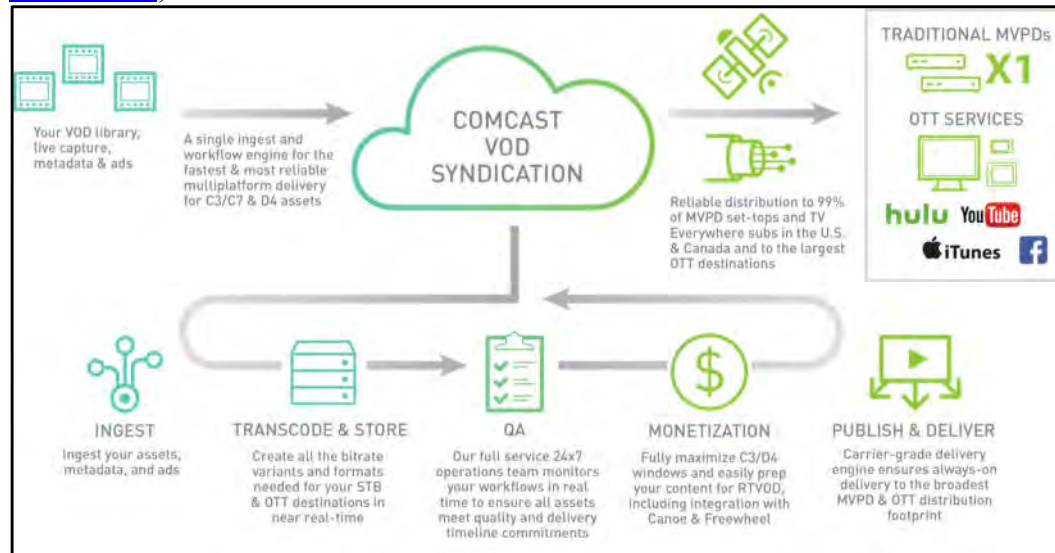


CMC Video On Demand Overview; Comcast, 2010.

In some cases, CMC acts as the VOD Service Provider and serves the content directly to the client's (DISH's) subscribers. In other cases, CMC passes the data back to the client or to a third-party CDN with whom DISH has contracted, for its distribution to the client's subscribers.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

<https://www.comcasttechnologiesolutions.com/video-on-demand-suite/ott-digital-distribution>; accessed on 3/28/2020.



<https://www.comcasttechnologiesolutions.com/video-on-demand-suite/broadcast-video-on-demand-vod-distribution> , (New 2 - ComTechSol.pdf); accessed on 3/14/2020.

In all cases, consumers receive video on demand content via a local network from

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	<p>datastore servers (computers that include computer-readable memory), as shown above.</p> <p>CMC's Video On Demand system includes a web-based Content Management System known as Express Lane. It allows content providers to access it and upload content and associated metadata via a website (known as the EXL Site).</p> <div data-bbox="682 427 1738 932" style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">TERMS AND CONDITIONS</p> <p>Content Distribution Service</p> <p>Comcast Cable Communications Management, LLC through its operating division Comcast Wholesale ("Comcast") Video on Demand ("VOD") Express Lane ("EXL") provides a mechanism for VOD Customers (as defined in a VOD Services Agreement or similar agreement (the "VOD Agreement")) between Comcast and Customer (each a "VOD Customer") to upload content and any associated metadata (collectively "Content") into the Comcast VOD workflow for delivery to authorized VOD recipients ("Authorized Systems"). In addition to these Terms of Use, all terms of your VOD Agreement and the Visitor Agreement - Terms of Use (Below) of the Comcast website apply to your use of EXL. By accessing and using the Comcast and EXL websites (collectively, the "EXL Site"), you hereby agree to the following terms, which are subject to change from time to time. By continuing to use the EXL Site, you accept and agree to any modified terms.</p> </div> <p>https://exl.comcastwholesale.com/terms (Comcast Terms and Conditions.pdf); accessed on 1/7/2020.</p>
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Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)**Comcast Media Center — VOD Express Lane**

Express Lane is a video on demand asset management system. Content providers upload assets and meta data to the system and create collections of receive sites for distribution. Assets can be uploaded singularly or in larger batches. Express Lane was originally developed in Flash and ActionScript 2. I been delivering maintenance and upgrade releases of this product for the last year at CMC.

<https://web.archive.org/web/20130902105928/http://flanagansweb.com/index.php?id=portfolio> (1. Flanagan's Web-Comcast_Media_Center_PDS_Admin_Tool.pdf); accessed on 1/7/2020.

Vubiquity

In addition to CMC, DISH also uses Amdocs/Vubiquity to support its Video On Demand functionality in the same way.

February 6, 2018 | Authored by: [Michael Isaacs](#)

Amdocs' acquisition of Vubiquity opens new doors for Vindicia

Vubiquity connects content publishers and owners with video distributors such as pay TV operators, telecommunications providers, and OTT publishers. Vubiquity works with over 600 content partners including 20th Century Fox, DreamWorks, MGM, Paramount, Sony, Universal, Warner Brothers, ABC, CBS, NBC, Fox, Disney Television Group, MTV, HBO, and Showtime.

A great incentive for Amdocs to purchase Vubiquity must surely have been its impressive roster of communications service provider (CSP) clients, which includes many of the world's largest. Most of them are already Amdocs customers, such as AT&T, Cablevision, Charter, Comcast, Cox, DIRECTV, Dish Network, and Verizon.

<https://www.vindicia.com/blog/amdocs-acquisition-vubiquity-opens-new-doors-vindicia>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

(New 1 - Vubiquity.pdf); accessed on 3/14/2020.

VOD

Vubiquity works with nearly 350 premium content providers to prepare, manage, deliver and help market their on-demand assets.

**CONTENT PREPARATION**

We ingest your content in whatever format you have, then encode/transcode it into whatever formats you need – in as little as 6 hours. [View More](#)

<https://web.archive.org/web/20150218025805/http://www.vubiquity.com/content-providers/vod>; accessed on 3/24/2020.

HOME :: CONTENT PROVIDERS :: VOD : CONTENT PREPARATION

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	<p>Our content preparation services are designed to accommodate rapid turnaround, scheduling growth, and ever-developing new on-demand programming concepts.</p> <p>Because different service providers are in different states of readiness to deploy VOD on multi-platform/multi-screen video, we employ a range of encoding techniques. We ingest your content in whatever format you provide it, then encode or transcode it into the formats desired by video service providers (cable, telco, DBS).</p>
	<p>Our encoding options include a variety of formats - MPEG-2, MPEG-4 (H.264), and Adaptive Bit Rate (ABR). For reaching existing digital set-tops (MPEG-2) and newer, IP-based screens (MPEG-4, ABR), formats are available over satellite or through fiber CDN distribution. We support both SD and HD delivery, and ensure that related metadata is compatible with all combinations of server, middleware, guide, set-top, and advertising systems.</p> <p>Vubiquity's web-based, dynamic, metadata modification system is designed to optimize your unique VOD programming and packaging structures. We understand how important it is to ensure your assets' metadata is faithfully deposited into the VOD menus of the service provider community, in the most logical and intuitive way.</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	<p>https://web.archive.org/web/20150217035606/http://www.vubiquity.com/content-providers/vod/content-preparation; accessed on 3/24/2020.</p> <p>Content providers may only upload content to the interface of the Infrastructure Service Provider after establishing a relationship with the Infrastructure Service Provider via DISH. For example, content providers may only upload content to CMC after establishing a relationship with CMC via DISH.</p> <div><p>To use Express Lane, you need to have established a relationship with the CMC for the distribution of VOD content. There are a few steps needed before to the first assets flow though the ExpressLane system:</p></div> <p>Express Lane User Guide v3.11; Comcast, 2010.</p> <p>As a practice, digital TV network operators, such as DISH, use encryption to make their content available only to subscribers who have a valid contract with them.</p>
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Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)**Conditional Access System**

Broadcast and TV operators are now interacting with their viewers on many levels, offering them a greater program choice than ever before. Additionally, the deployment of a security system or conditional access (CA), as it is commonly called, provides them with unprecedented control over what they watch and when. A CA system is best described as a virtual gateway that allows viewers to access a new world of digital services.

The main goal of any CA system is to control subscribers' access to digital TV pay services and secure the operators revenue streams. Consequently, only customers that have a valid contract with the network operator can access a particular service. Using today's CA systems, network operators are able to directly target programming, advertisements, and promotions to subscribers by geographical area, market segment, or according to personal preferences. The CA system is therefore a vital aspect of the digital TV business. In technical terms, the key elements of the CA system are illustrated in Figure 1.3.

Restricting access to a particular service is accomplished by using a technique called cryptography. It protects the digital service by transforming the signal into an unreadable format. The transformation process is known as "encryption" in a digital environment and "scrambling" in an analog domain. Once the signal is encrypted, it can only be decrypted by means of a digital set-top box. Decryption is the process

Book: The Essential Guide to Digital Set-top Boxes and Interactive TV by Gerard O'Driscoll, Prentice Hall, NJ. 2000. (Essential Guide to Set Top Boxes - Conditional Access.pdf).

See also, for example, how other industry digital TV network operators use this practice.

All DIRECTV broadband delivered content is encrypted with 128 bit AES using a key delivery mechanism secured by DIRECTV Conditional Access. The content remains encrypted throughout the delivery process and is not decrypted until it is being viewed using an authorized DIRECTV STB. Requests for content files are authenticated prior to transfer of content.

<https://docplayer.net/11005485-Directv-set-top-box-and-content-protectiondescription.html> (DIRECTV Set Top Box and Content Protection

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

Description.pdf); document dated May, 2014.

As outlined on a note on its website, Comcast said it will be encrypting its Limited Basic channels, "which will result in the scrambling of those signals." The move helps providers like Comcast stop people from stealing cable, and also means the provider can troubleshoot and provide other services from afar rather than having to send a technician out to customers' homes.

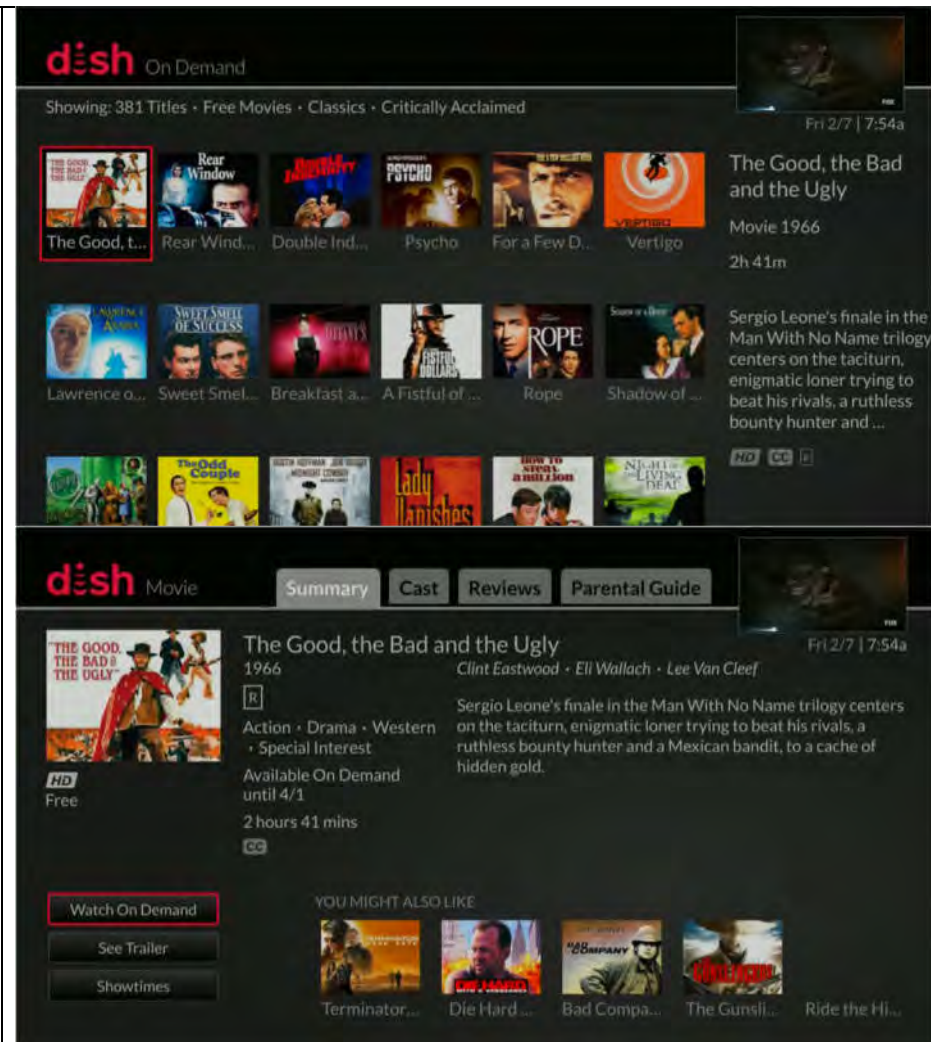
In order to view encrypted channels, however, customers will need a set-top box, digital adapter, or a CableCARD-enabled device on each TV in the home. Those without one of those gadgets, however, will be left in the dark.

www.pcmag.com/news/comcast-rolls-out-basic-cable-encryption (PCMag Comcast Encryption.pdf); accessed on 2/29/2020.

DISH's STBs receive respective video-on-demand application-readable metadata that is associated with respective video content and is usable to generate a video-on-demand content menu.

The respective video-on-demand application-readable metadata is generated according to the respective specified metadata, for example, by the text descriptions in the DISH EPG's content menu.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



[DISH STB screen captures were captured on a Hopper with Sling through a Slingbox 500].

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

This respective video-on-demand application-readable metadata is associated with respective video content. When a video title is selected from the STB's video-on-demand content menu and that video's "watch" button is selected, the video matching that description is downloaded and played.

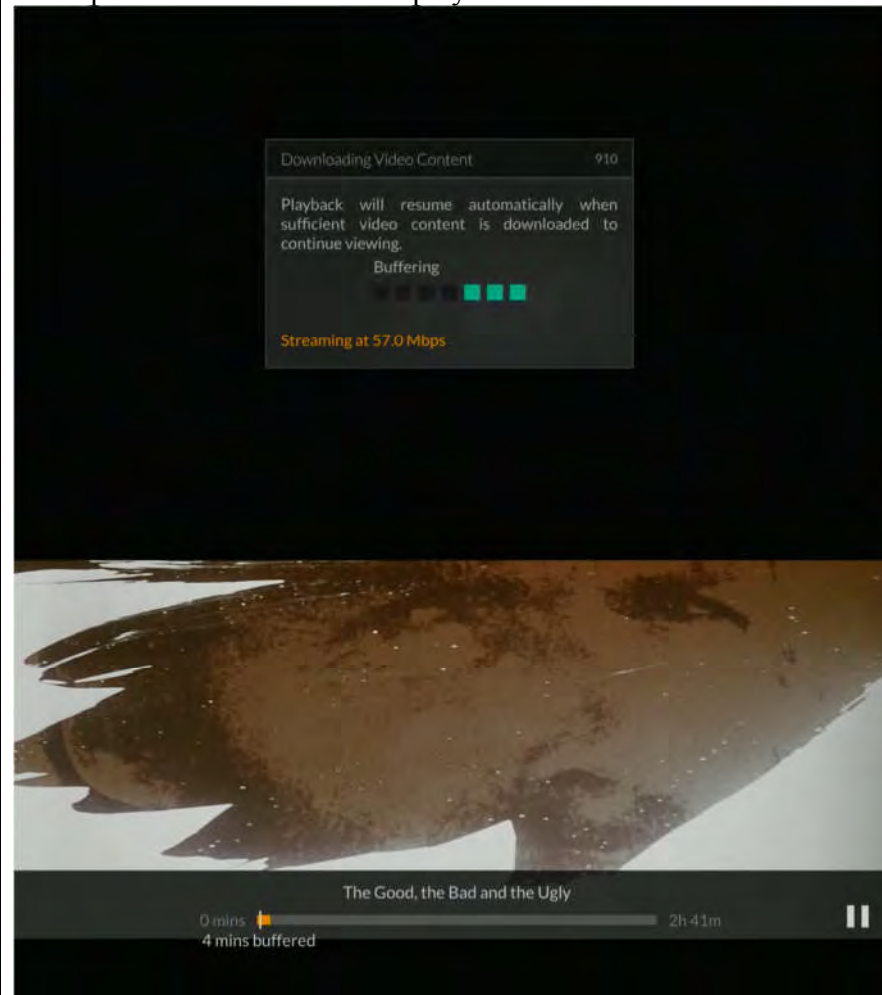
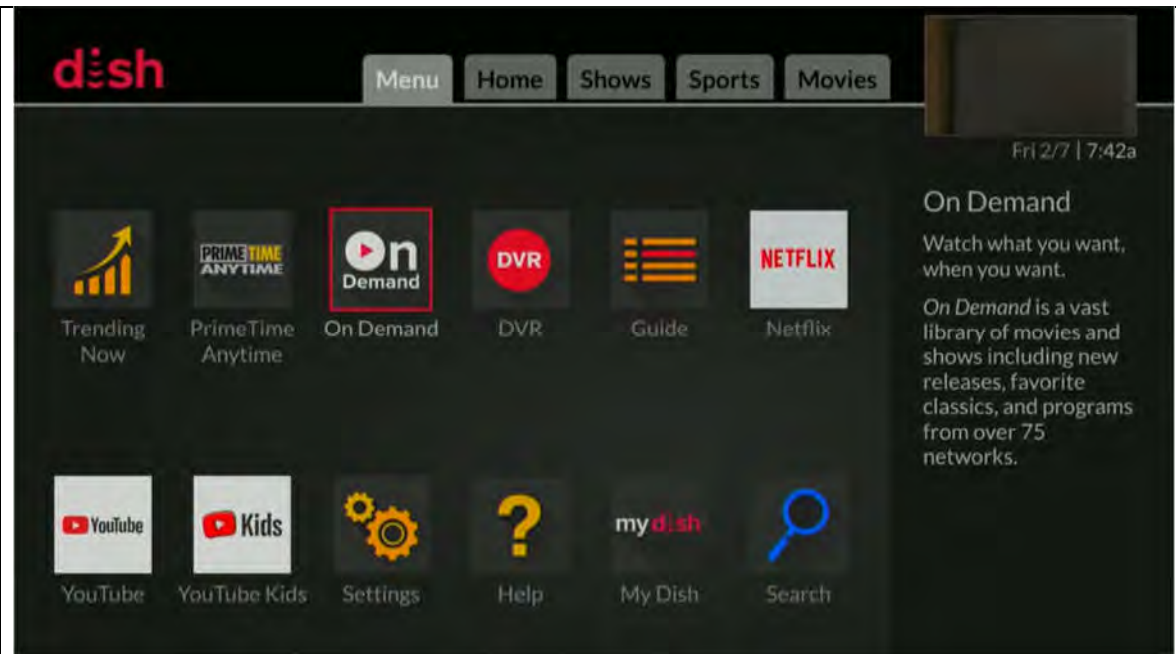


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	<p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>(b) providing, to the TV subscriber at the set-top box, the video-on-demand content menu for navigating through titles, including the respective titles of the respective video content, in a drill-down manner by category information and subcategory information in order to locate a particular one of the titles whose associated video content is desired for viewing on the TV equipment, wherein the video-on-demand content menu lists the titles using the same hierarchical structure of respective category information and subcategory information as was designated by the respective video content provider in the respective specified metadata for the respective video content, wherein a plurality of different video display templates are accessible to the set-top box, and wherein the video-on-demand</p>	<p>The Accused Products are programmed to perform the step of (b) providing, to the TV subscriber at the set-top box, the video-on-demand content menu for navigating through titles, including the respective titles of the respective video content, in a drill-down manner by category information and subcategory information in order to locate a particular one of the titles whose associated video content is desired for viewing on the TV equipment, wherein the video-on-demand content menu lists the titles using the same hierarchical structure of respective category information and subcategory information as was designated by the respective video content provider in the respective specified metadata for the respective video content, wherein a plurality of different video display templates are accessible to the set-top box, and wherein the video-on-demand content menu is generated using at least one of the plurality of different video display templates and based at least upon the respective specified metadata.</p> <p>Each DISH STB enables a subscriber using the DISH STB to navigate in a drill-down manner through titles by category information in order to locate a particular one of the titles whose associated video content is desired for viewing on the Internet-connected digital device using the same category information as was designated by a video content provider in metadata associated with the video content.</p> <p>The drill-down menus can be located from the “On Demand” menu that appears from pressing the MENU button on the remote control.</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

content menu is generated using at least one of the plurality of different video display templates and based at least upon the respective specified metadata; and

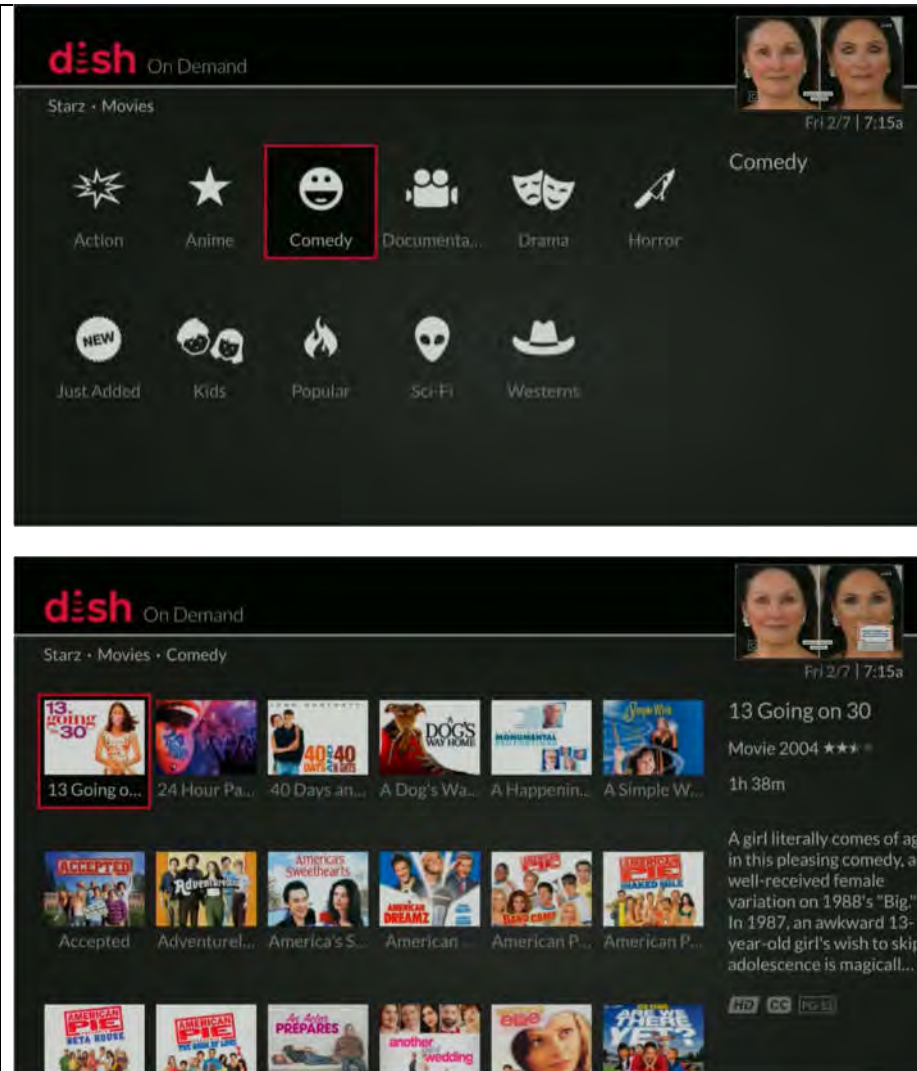


[DISH STB screen captures were captured on a Hopper with Sling through a Slingbox 500].

The EPG provided by DISH's STBs enables subscribers to navigate in a drill-down manner through titles by category information in order to locate a particular one of the titles desired for viewing.

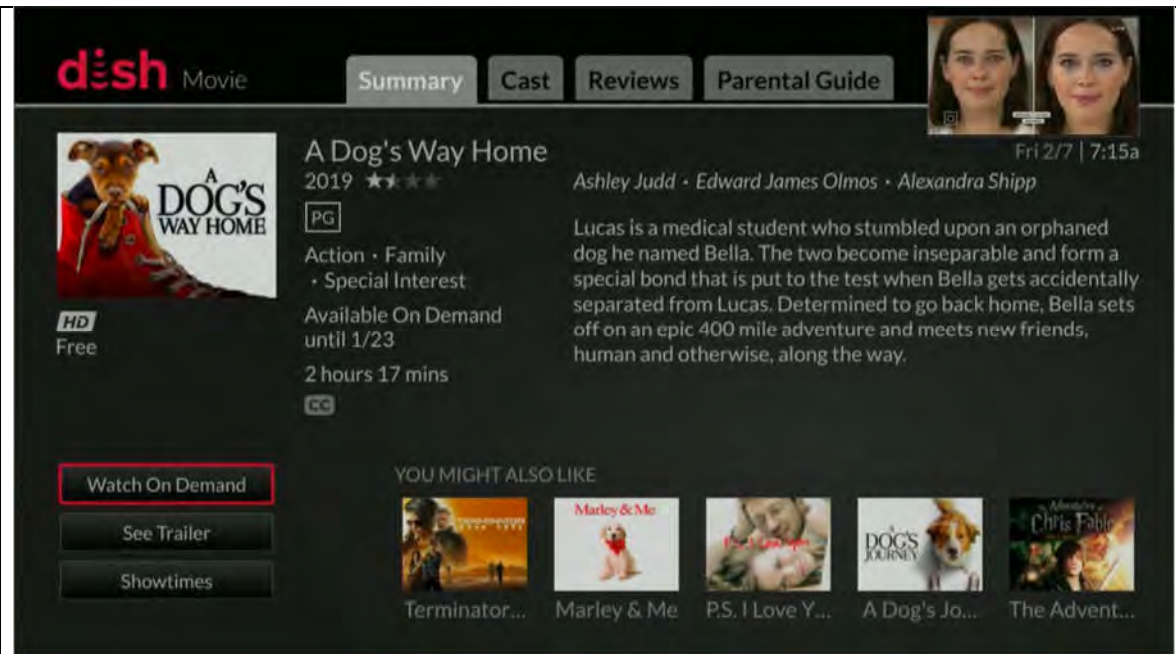
For example, the EPG displays categories which the user may choose from.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



When a user selects a program, they are then shown details about the program.

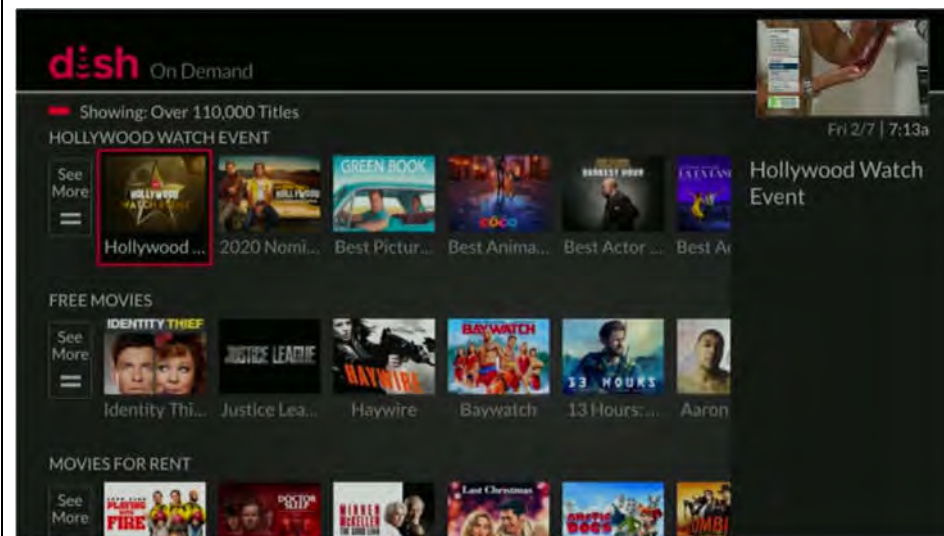
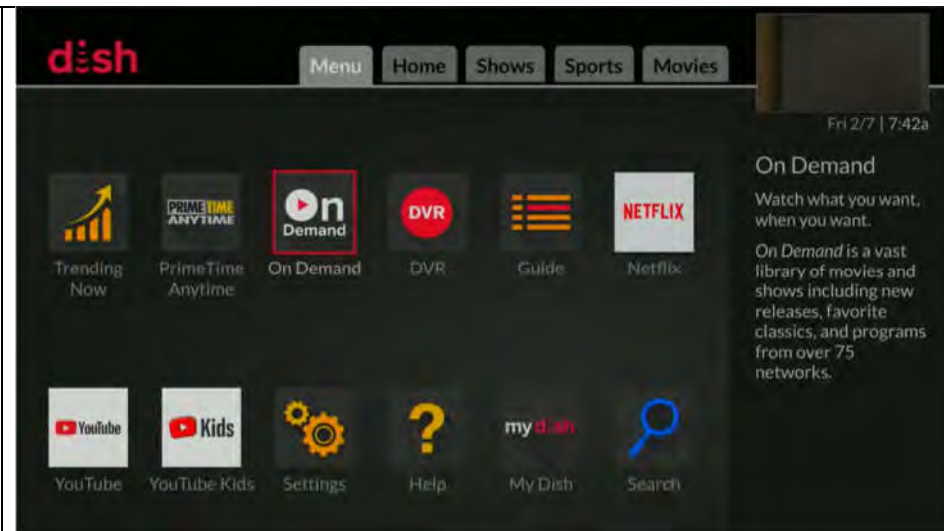
Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



The EPG on DISH STBs contains several types of hierarchical drill-down menus, shown below. For example, in the example directly below, a user may navigate in a drill-down manner through categories of VODs such as “browse by Channel,” selecting Starz, selecting Movies, then Comedies, and selecting “A Dog’s Way Home” to watch. This drill-down navigation example is referred to herein as the “STB/Network Drill-Down”

DISH’s STB menu has a top level, where “On Demand” can be selected.

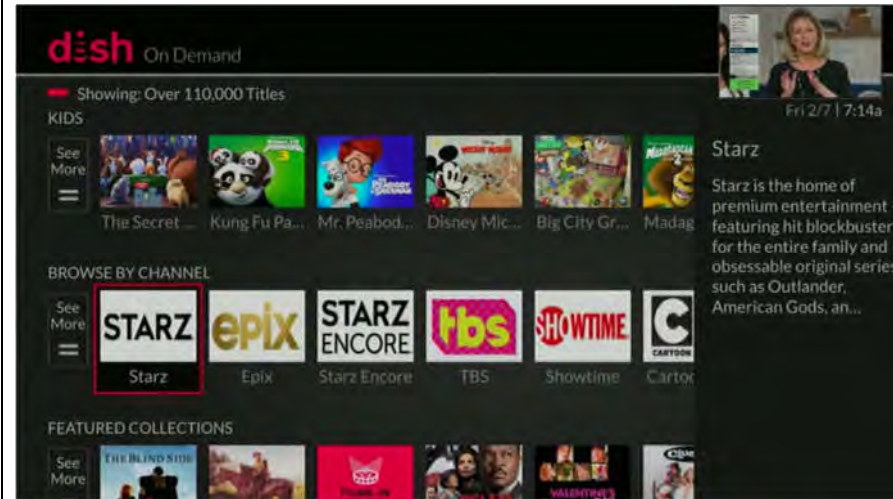
Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



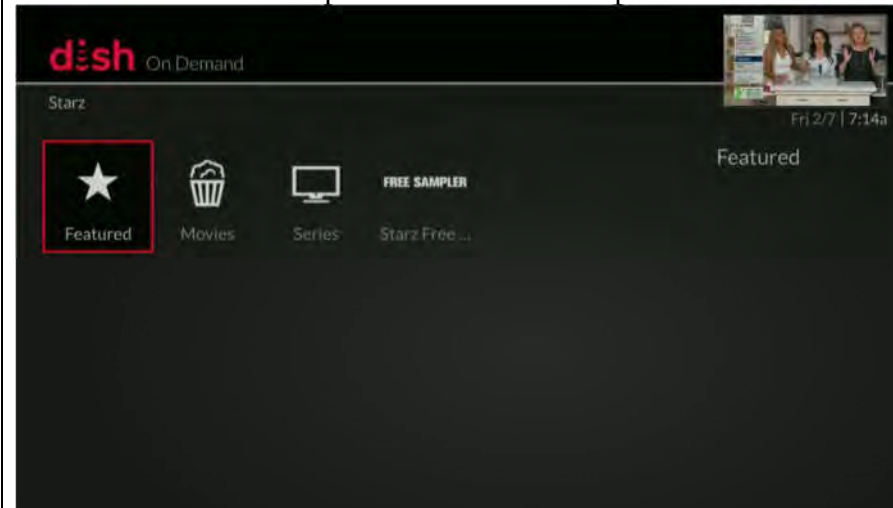
From the On Demand menu, a user can scroll down the list and select a content provider

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

such as Starz.



The user will have the option to choose from options such as "Movies" or "Series."



If a user selects the "Movies" category, the user will then have the option to pick from

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

sub-categories such as “Action,” “Anime,” “Comedy,” and more.



Within the “Comedy” category, a user can select a particular movie.

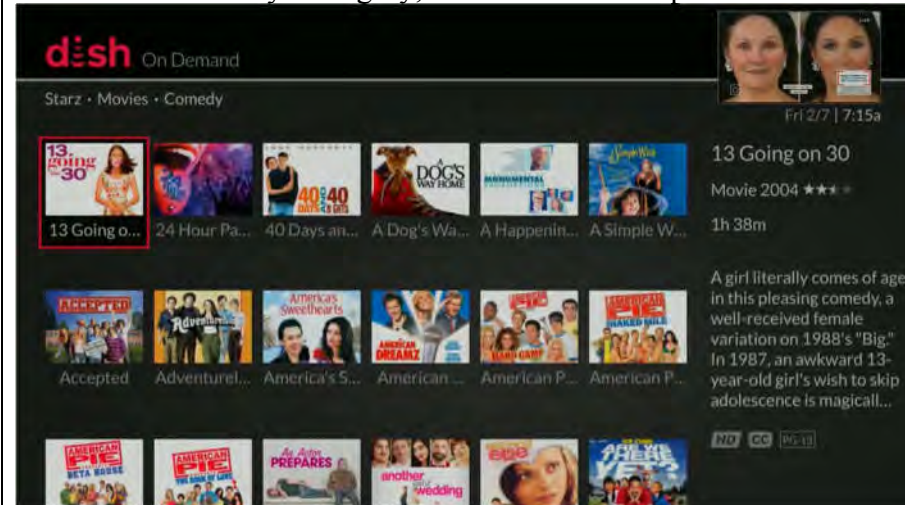
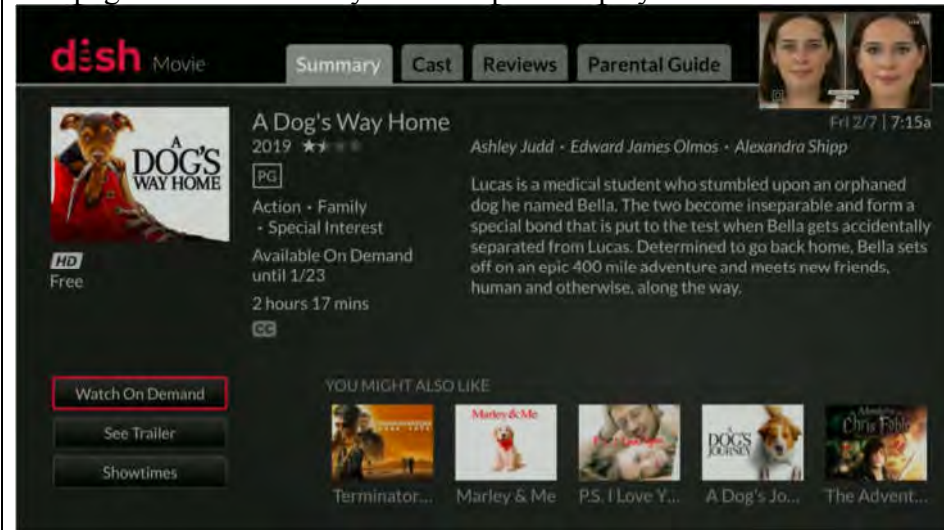


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

The page offers a summary and the option to play the movie.



If "Watch On Demand" is selected, the movie will play.

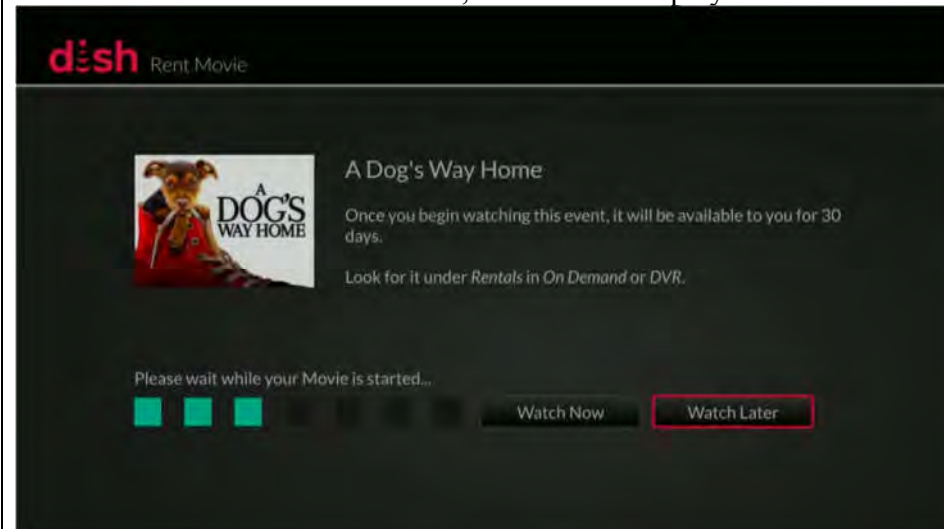
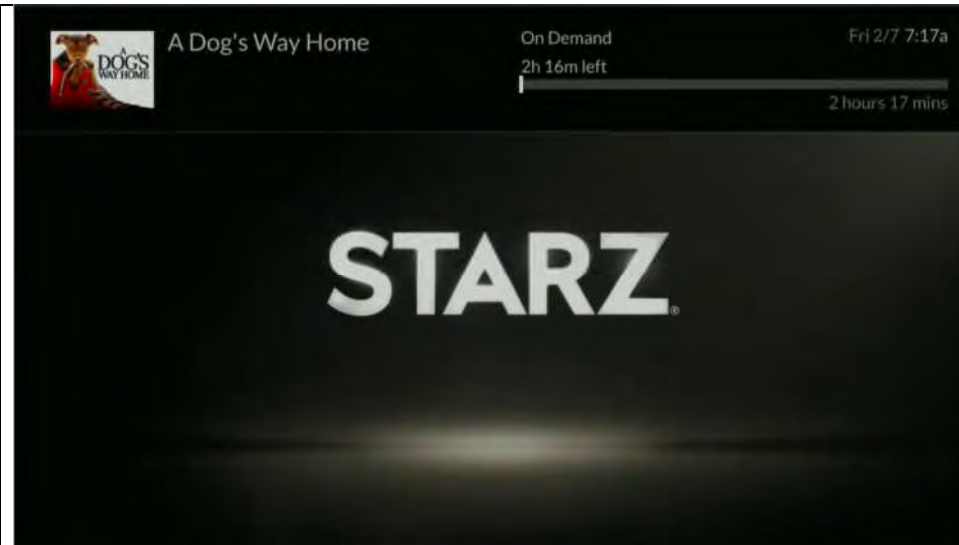
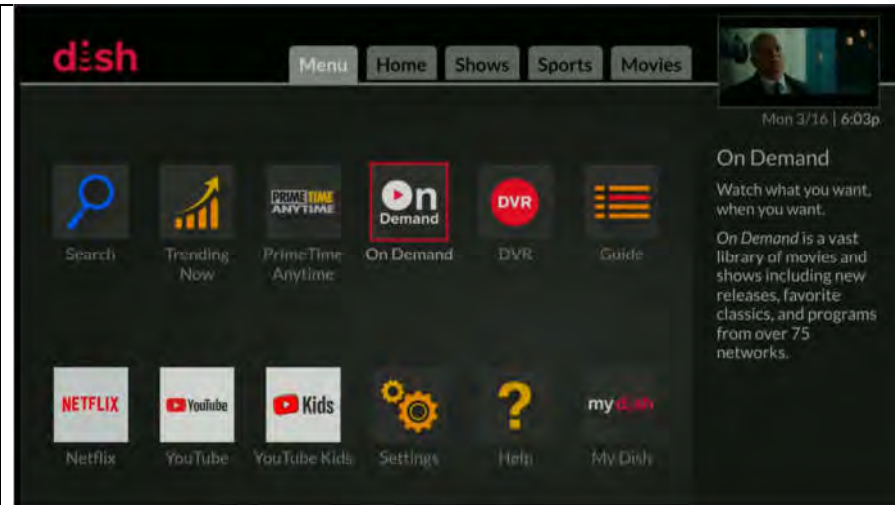


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

As another example, a subscriber may drill down from the On Demand menu through the “Free TV Shows” on-demand menu, then selecting a category such as “Comedy,” the “Comedies for Kids,” and selecting a show such as “Disney Mickey Mouse.” A user may then select an episode, which will display a title-specific menu. When the user selects “Watch On Demand,” This drill-down navigation example is referred to herein as the “STB/TV Drill-Down.”

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



After selecting the top level “On Demand” button, a user may select one category out of the various categories of available content.

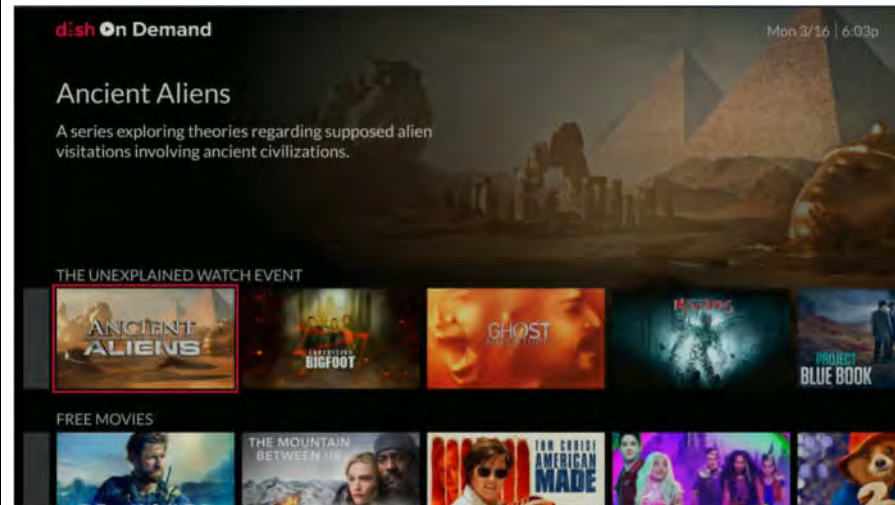
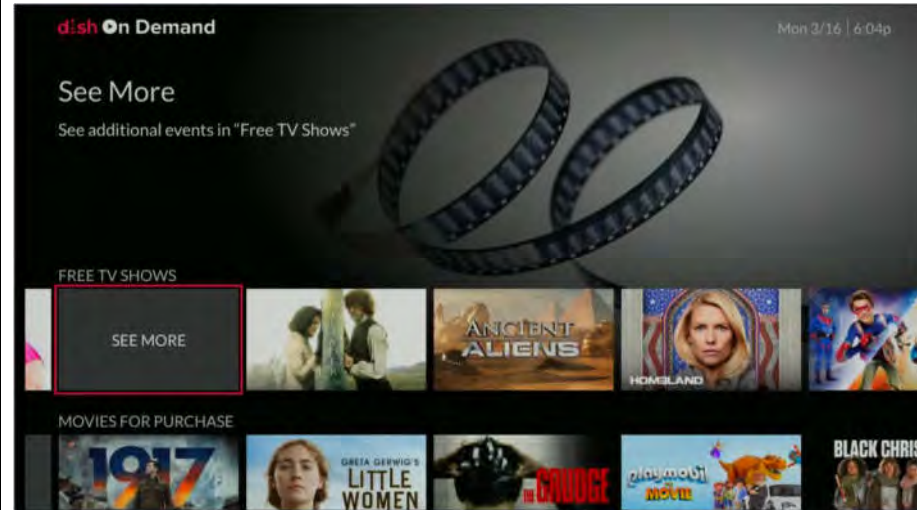


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

A user may scroll down to the “Free TV Shows” category and move his or her cursor left to select “See More.”



The user will be presented with categories within “Free TV Shows,” such as “Premiums,” “Kids & Family,” “Comedy,” “Drama,” and more.

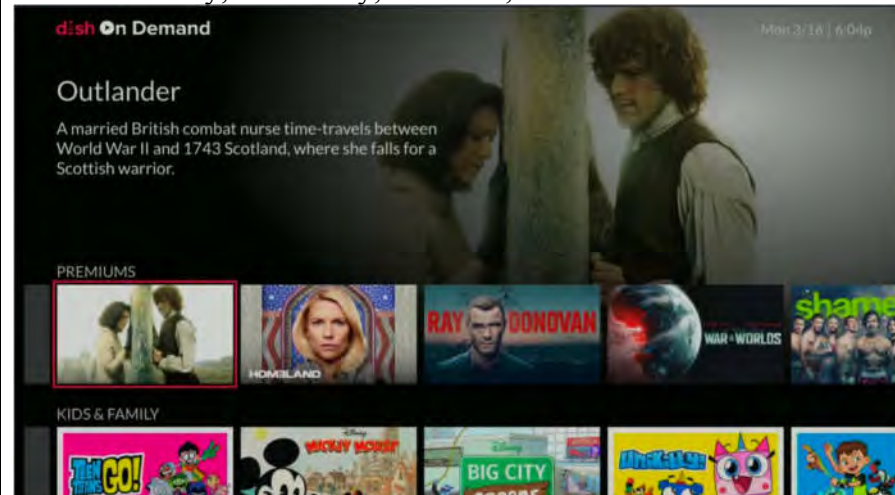
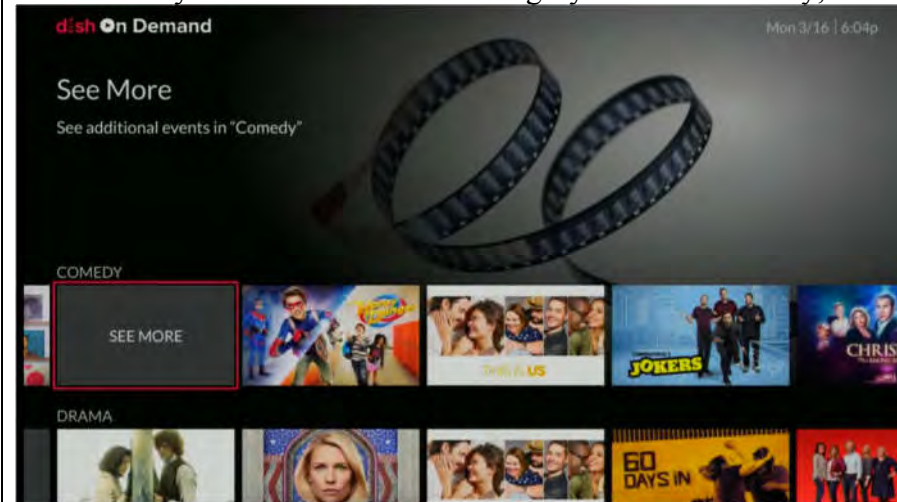
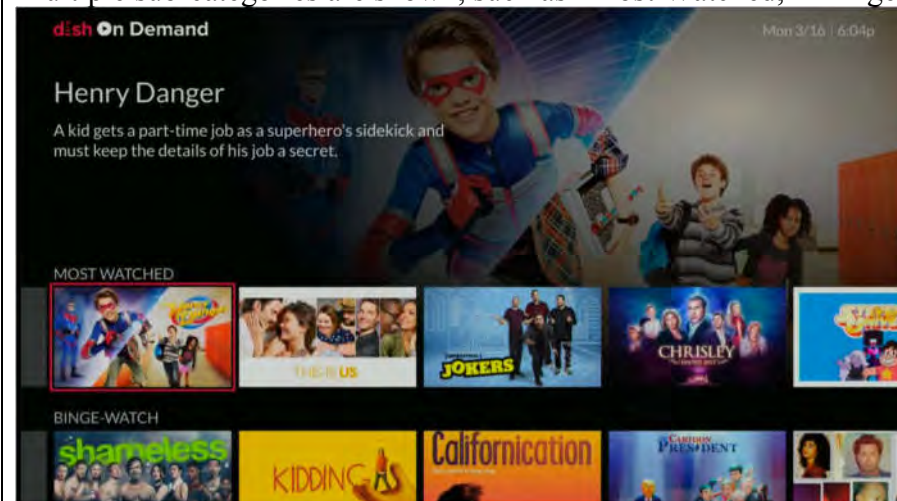


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

The user may then scroll down to a category such as “Comedy,” and select “See More.”

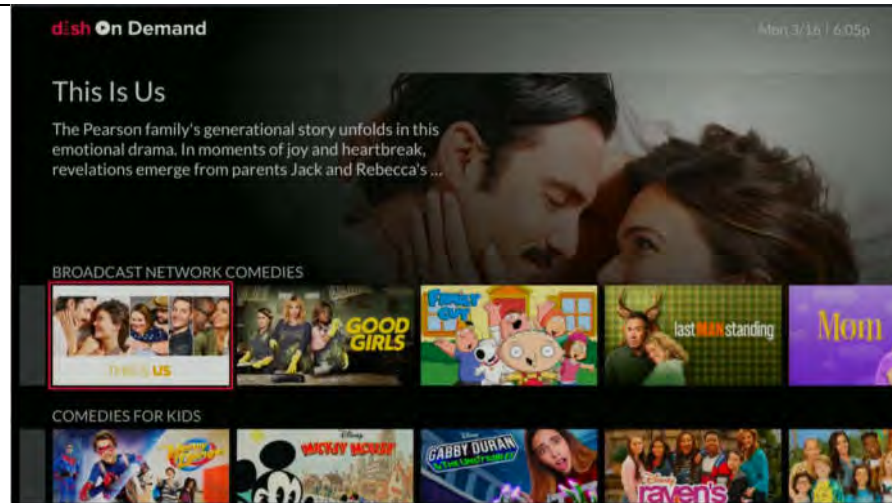


Multiple sub-categories are shown, such as “Most Watched,” “Binge Watch...”

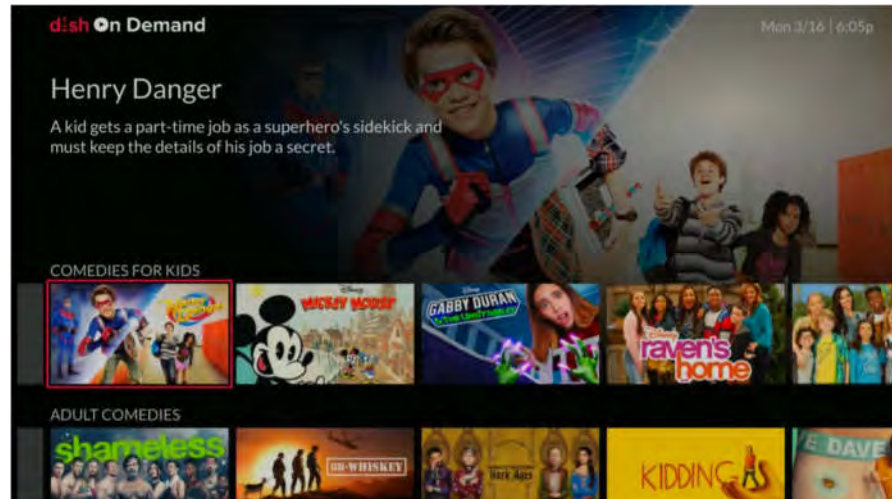


... “Broadcast Network Comedies,” “Comedies for Kids...”

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

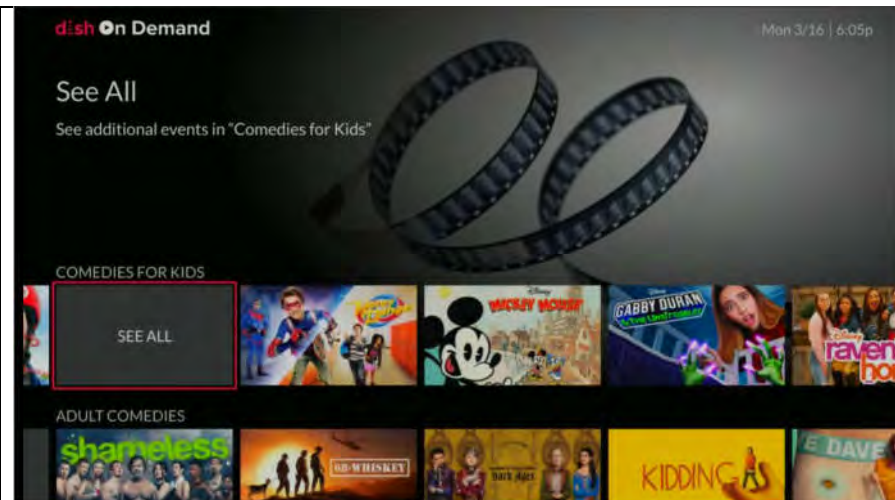


... and “Adult Comedies.”

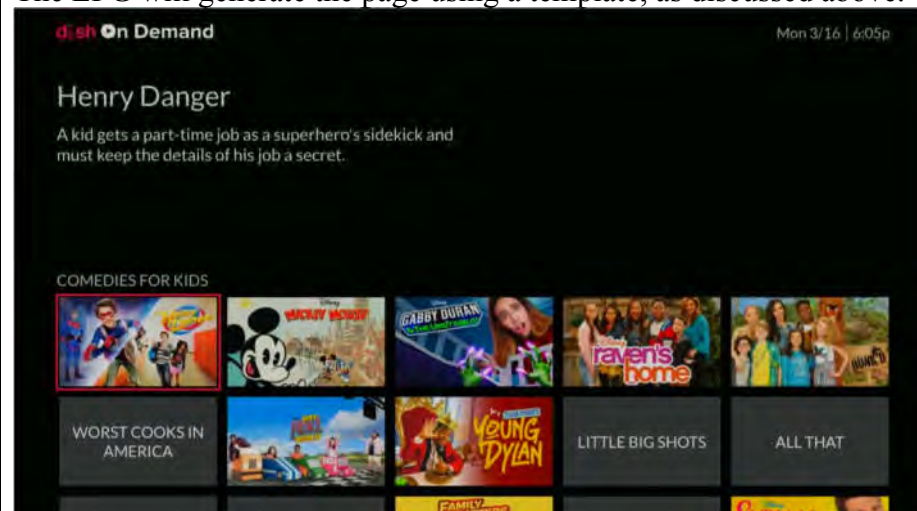


The user may select “See All” within one of these subcategories, such as “Comedies for Kids.”

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

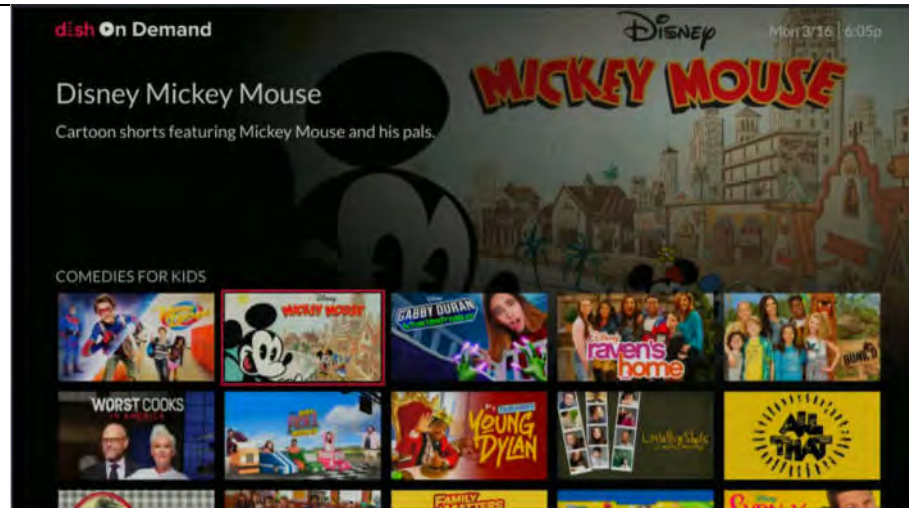


The EPG will generate the page using a template, as discussed above.



The user may then select a show, such as "Disney Mickey Mouse."

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



Within the show, the user has the option to choose from many different seasons and episodes.



Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

A user may scroll down to select a season, such as “Season 4.”



The user may then select an episode within Season 4 such as “Easy Street.”



Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

After the episode is selected, the episode page with more details is shown, and the user may select “Watch On Demand.”



If the user selects “Watch on Demand,” the episode will start downloading and playing.

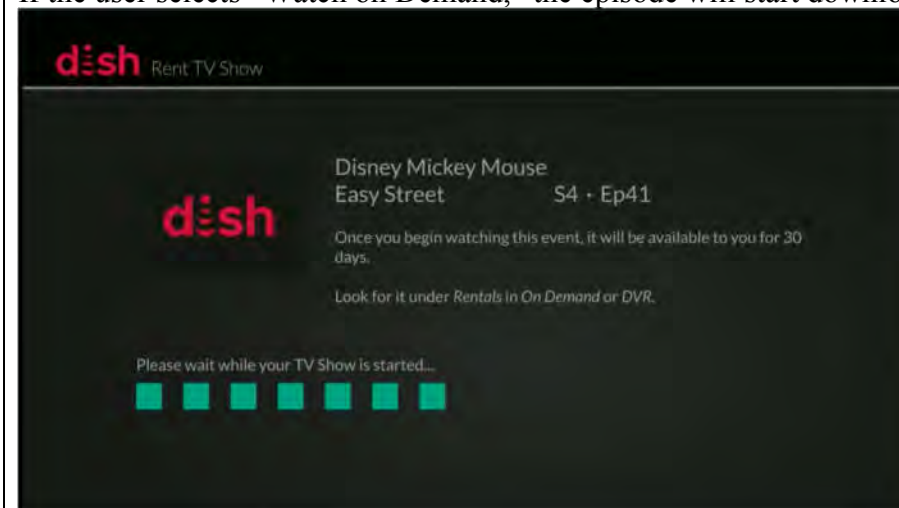
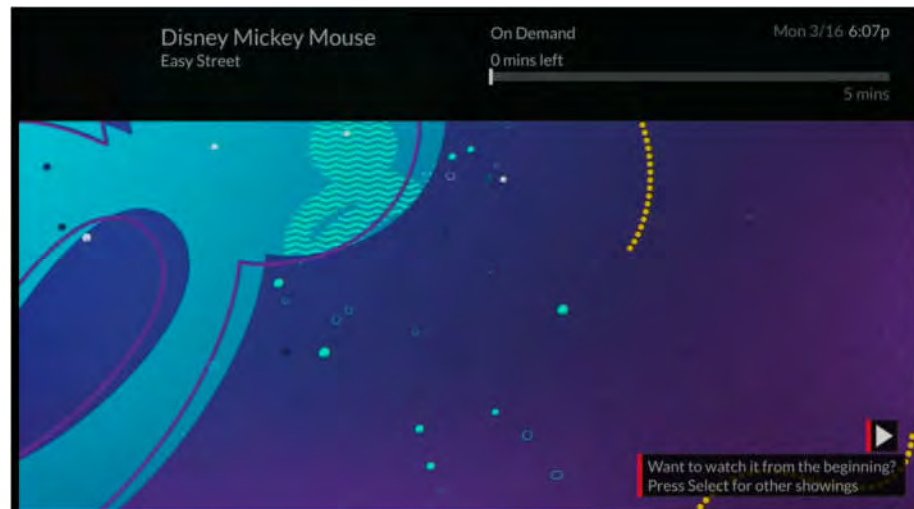
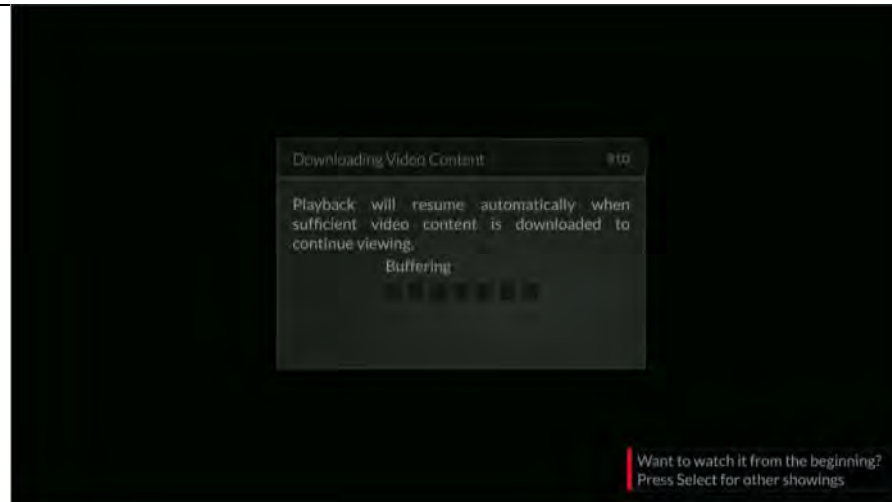


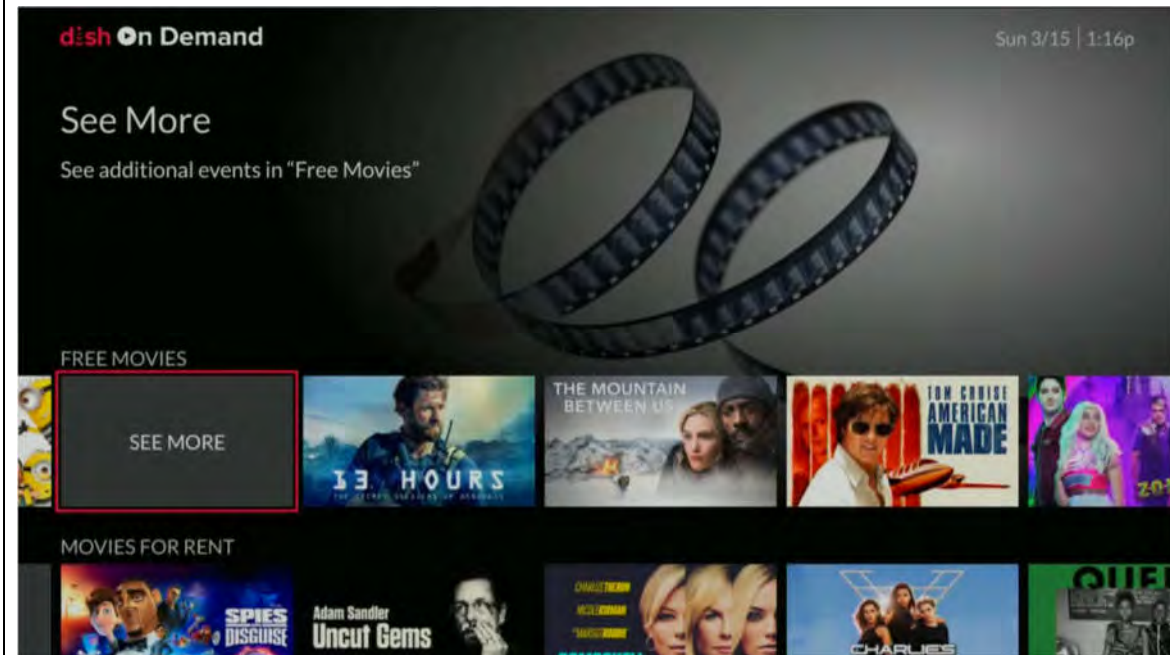
Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

As another example, a subscriber may drill down from the top-level VOD menu into a filtered list of titles belonging to a selected category, such as "Free Movies" then

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

“Action,” “R-Rated Action,” then into a title-specific screen such as “Atomic Blonde.” This drill-down navigation example is referred to herein as the “STB/Genre Filter Drill-Down.”

From the top level menu, a user may scroll down to the “Free Movies” category and select “See More.”



The EPG will generate the page using a template, as discussed above.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

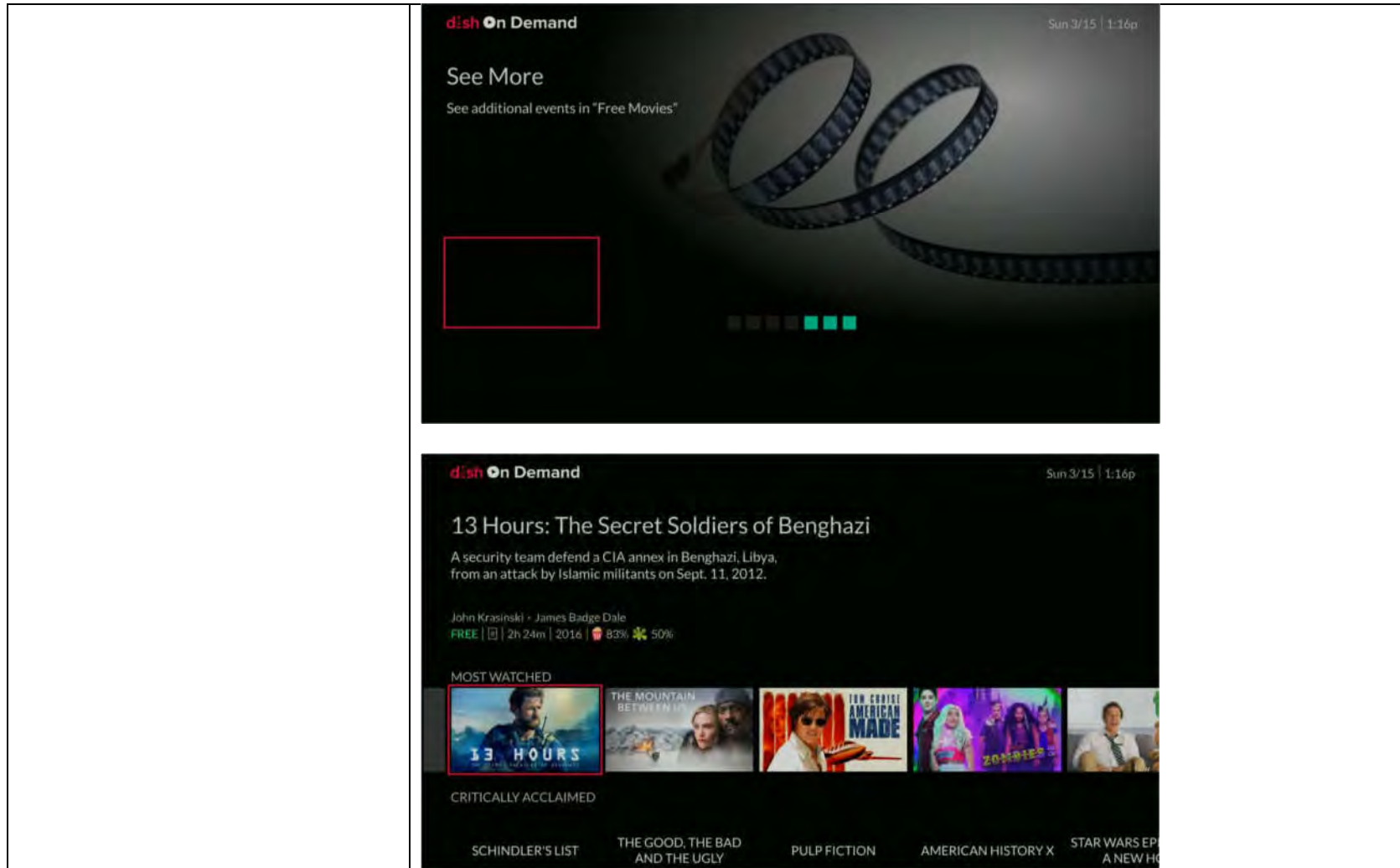
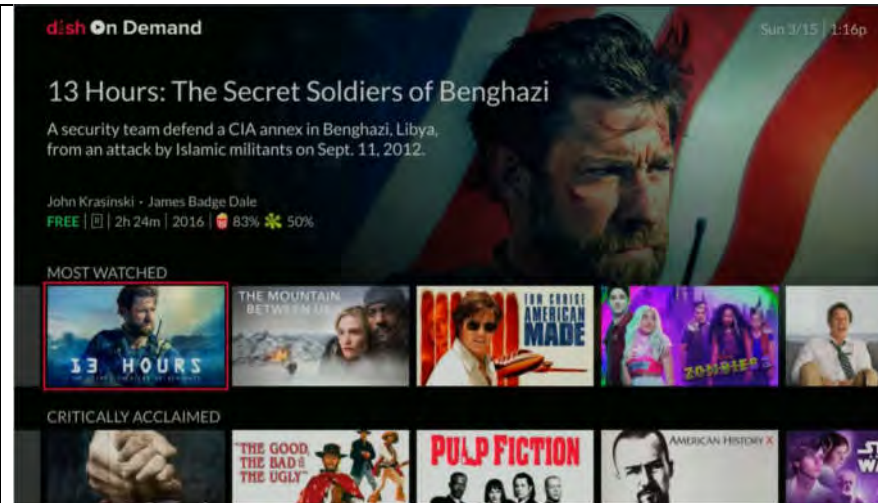


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



On this level of the EPG, the user has many categories to choose from, such as “Classics,” “Comedy,” “Drama,” and “Fantasy,” among others.

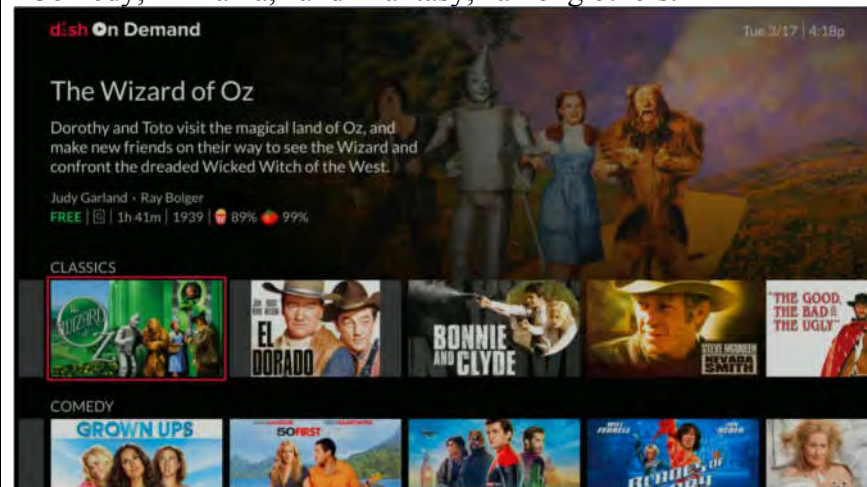


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

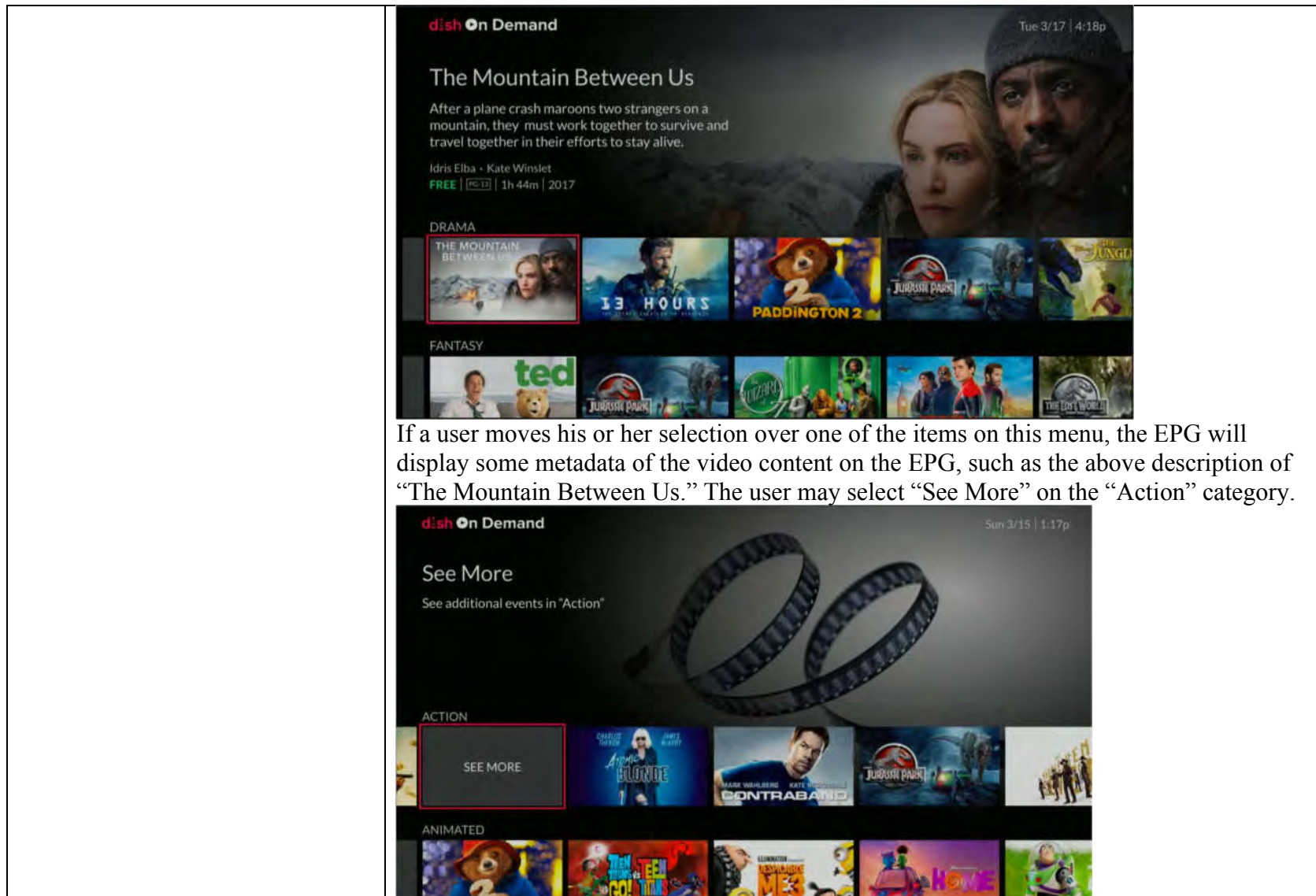
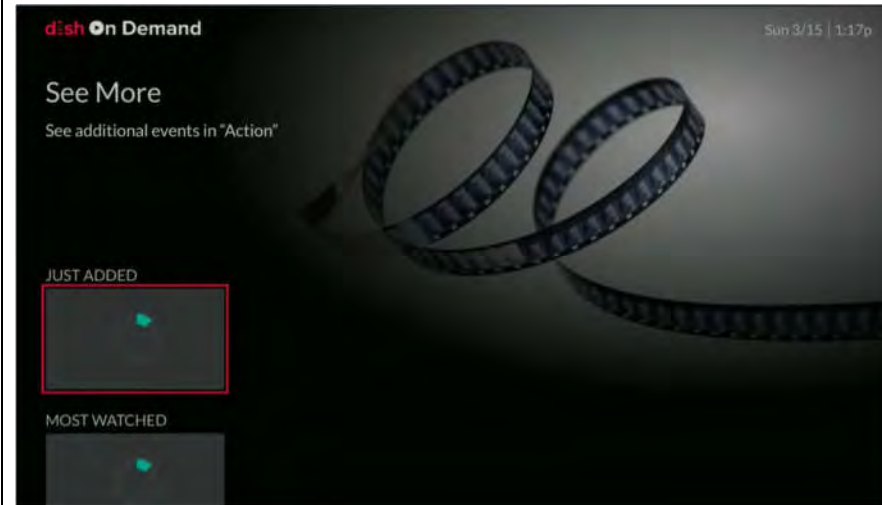
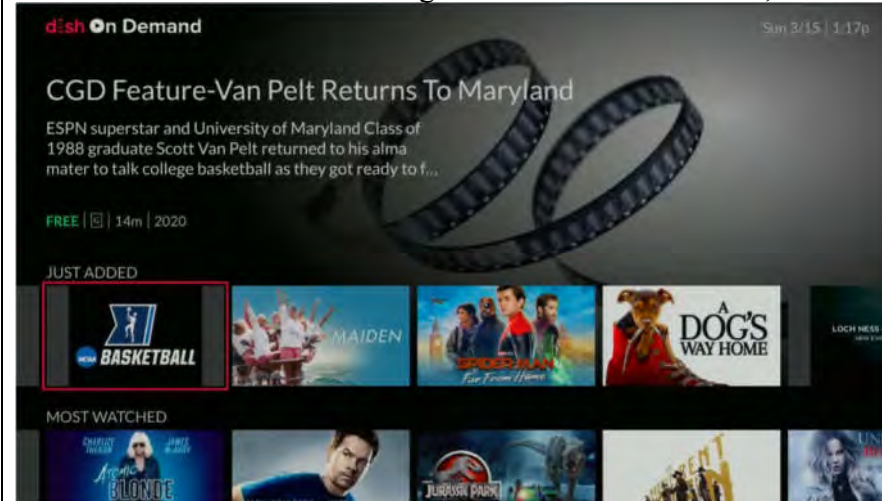


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

The EPG will then construct the available Action movies.



This level shows more sub-categories such as “Just Added,” “Most Watched...”



... “Classic Action,” “R-Rated Action...”

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

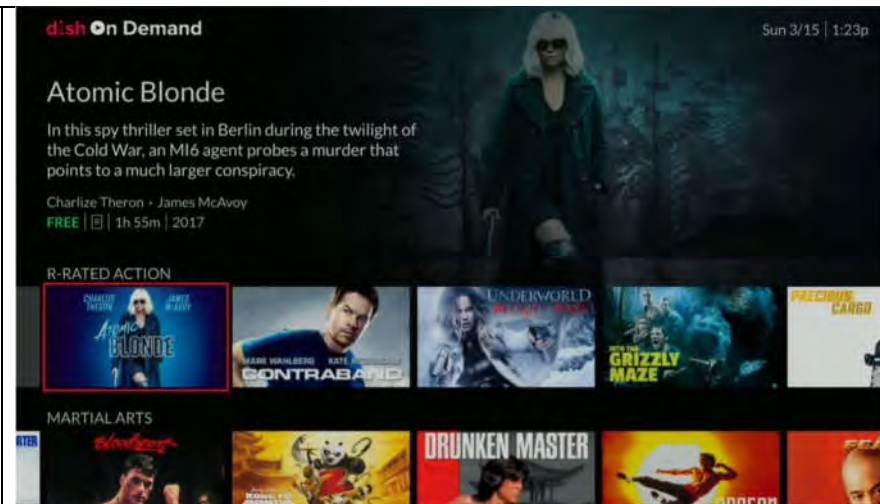
The top screenshot shows the Dish On Demand interface for the movie "Canyon Passage". The interface includes a title, a synopsis, cast members (Dana Andrews, Brian Donlevy), a "FREE" rating, a "1h 31m" runtime, and a "1946" release year. Below the movie details, there are two rows of movie recommendations: "CLASSIC ACTION" and "R-RATED ACTION". The "CLASSIC ACTION" row is highlighted with a red border, and it contains several movie thumbnails, including "Canyon Passage", "For a Few Dollars More", "Hellfighters", "Washburn", and "Thunderbolt 007".

The bottom screenshot shows the Dish On Demand interface for the movie "Bloodsport". The interface includes a title, a synopsis, cast members (Jean-Claude Van Damme, Leah Ayres), a "FREE" rating, a "1h 32m" runtime, and a "1988" release year. Below the movie details, there are two rows of movie recommendations: "MARTIAL ARTS" and "MATT DAMON". The "MARTIAL ARTS" row is highlighted with a red border, and it contains several movie thumbnails, including "Bloodsport", "The Karate Kid", "Drunken Master", "Dragon", and "Fist of Fury".

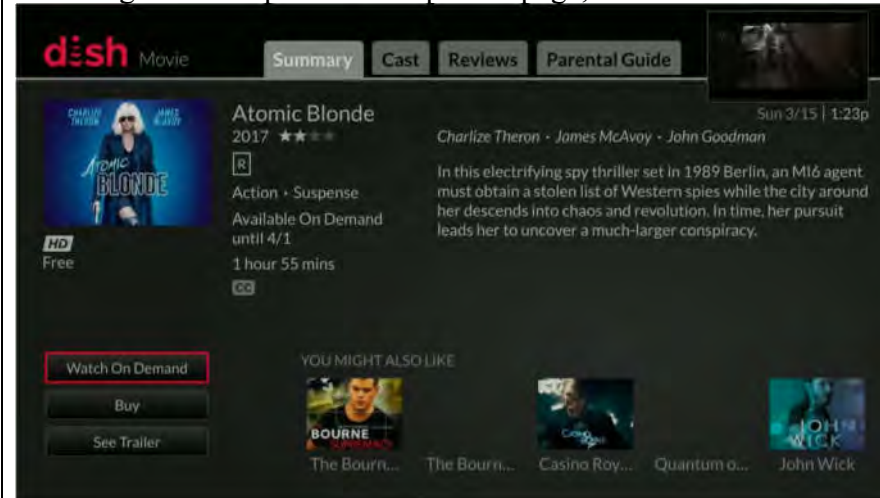
... "Martial Arts," and "Matt Damon," among others.

A user may select a title in "R-Rated Action" such as "Atomic Blonde."

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



Selecting the title opens a title-specific page, where more details are shown.



If the user selects “Watch On Demand,” the movie will start downloading and playing.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

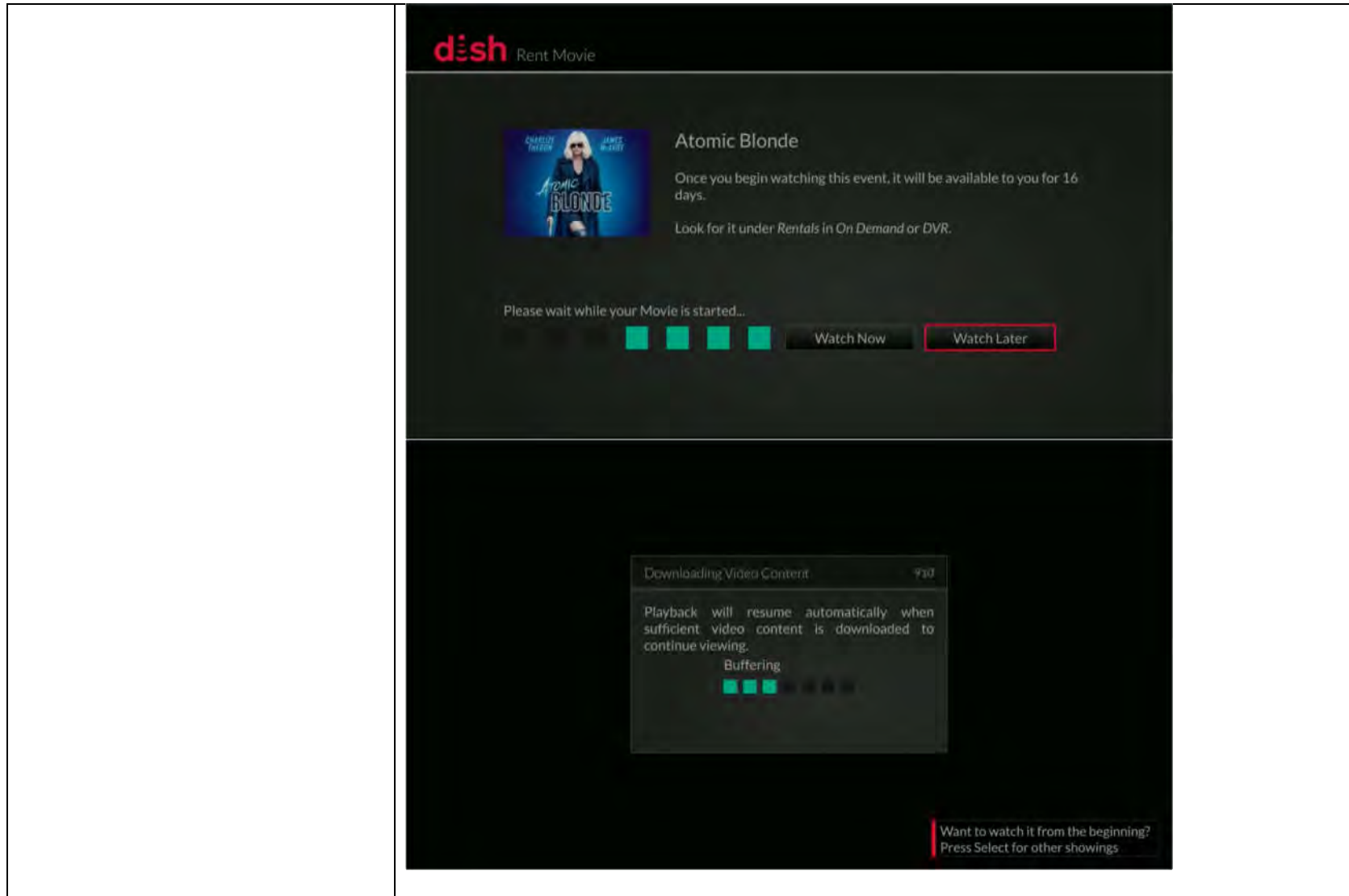


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



If a user returns to the title-specific menu, the EPG will show the speed at which the movie is downloading to the user's STB.

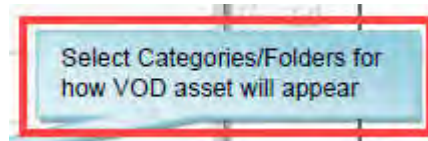
Other options in the "On Demand" menu lead to other similar navigation paths. All DISH STBs utilize the same or substantially similar hierarchically arranged electronic program guide for video-on-demand content.

The DISH VOD content menu lists the titles using the same hierarchical structure of respective category information and subcategory information as was designated by the respective video content provider in the respective specified metadata for the respective video content.

As discussed above, the metadata uploaded specifies a respective hierarchical location of

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

a respective title of the respective video content within the video-on-demand content menu displayed on the TV equipment. CMC or other Infrastructure Service Provider conditions the ingested metadata for use by the subscriber's EPG dictate where in the EPG the title will appear.



4. In the **VOD Categories/Folders** field, select those categories and folders where you would like your asset to appear. These are human-readable categories and sub-categories which affects how the VOD asset is presented to customers (e.g. "Movies/Movies A-Z"). Press and hold the Ctrl key and click if you wish to choose to select multiple items/folders as you scroll through the list. MSOs may customize each folder with mappings called "Destination Folders", which are currently available in our existing VOD process. If the desired folder is not present in the list, follow the process in Appendix D. *(Required)*.

Express Lane User Guide v3.11, Comcast, 2010.

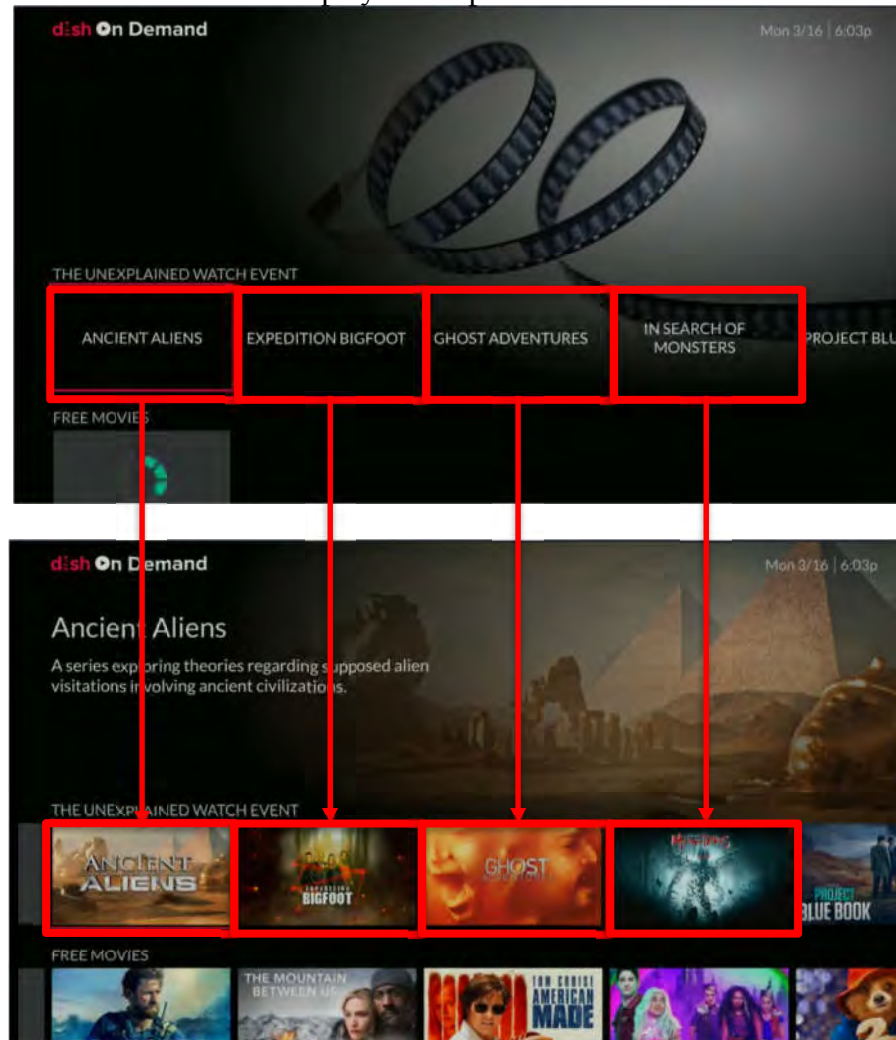
In DISH's STB, a plurality of different video display templates are accessible to the set-top box, and the video-on-demand content menu is generated using at least one of the plurality of different video display templates and based at least upon the respective specified metadata.

During operation, for example, it is apparent that the display is generated from templates. As the display is rendered, the EPG first displays a template with reserved areas for movie cover art. These reserved areas of the template are populated with cover art as the display is completed.

In the example below, a template for both "the unexplained watch event" and "free movies" is shown as the EPG is loading. These reserved areas of the template are

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

populated with cover art as the display is completed.



[DISH STB screen captures were captured on a Hopper with Sling through a Slingbox 500].

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

This behavior is seen at various levels of the EPG.

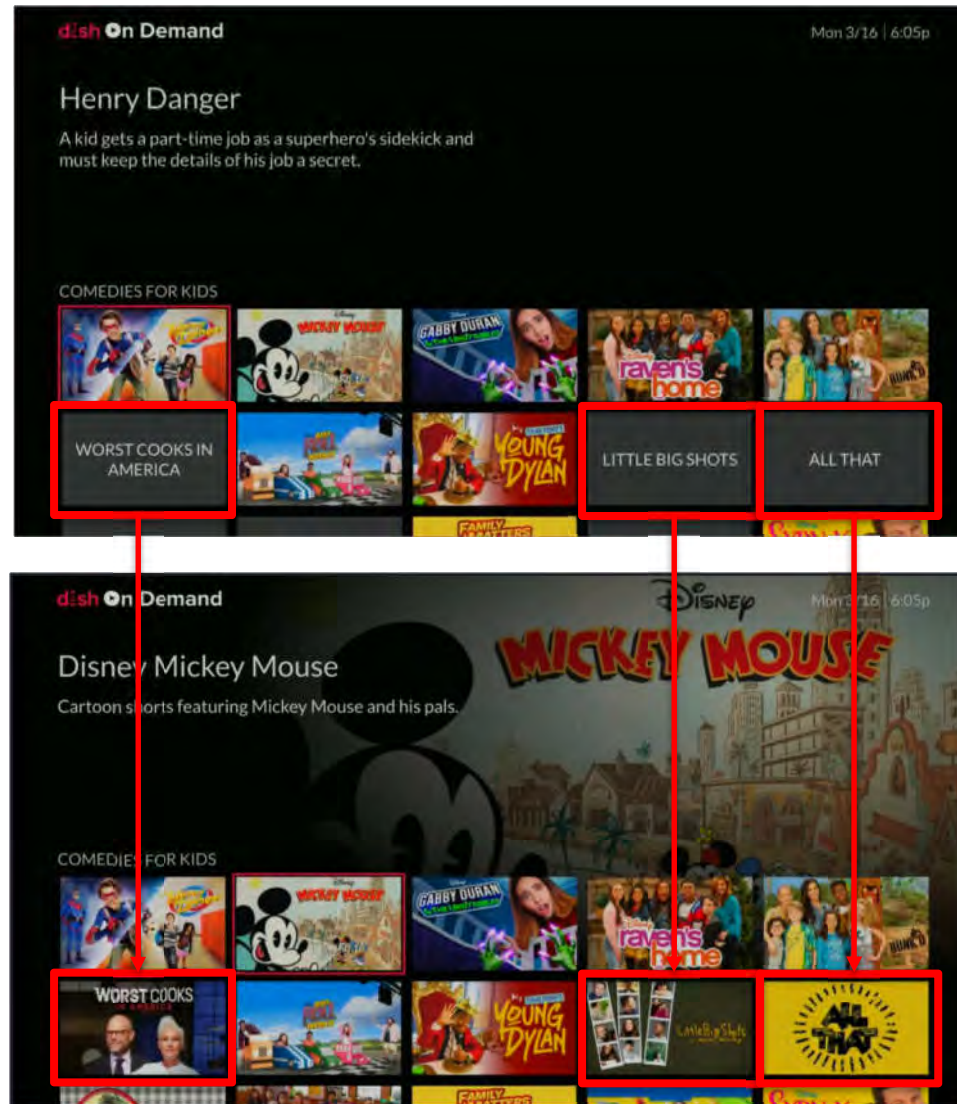


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

As another example, the layout of the EPG for different video content is identical, with content for different shows placed in the same areas, showing that a template is used across the EPG. Because the same template is used for the two titles below, the layout of their metadata is the same.

The screenshot shows the Dish Movie interface for the movie "A Dog's Way Home". The interface includes a title bar with the Dish logo and "Movie" text, navigation tabs for Summary, Cast, Reviews, and Parental Guide, and a movie poster. The main content area displays the movie title, year (2019), rating (PG), genres (Action, Family, Special Interest), availability (Available On Demand until 1/23), duration (2 hours 17 mins), and a description. A "Watch On Demand" button is highlighted with a red box. Below the main content, there is a "YOU MIGHT ALSO LIKE" section with recommendations for other movies.

Annotations on the left side of the screenshot identify key elements:

- Title**: Points to the movie title "A Dog's Way Home".
- Cover Image**: Points to the movie poster image.
- Genres and availability**: Points to the genres and availability information.
- Viewer Selection Options**: Points to the "Watch On Demand" button.
- Description of Video**: Points to the movie description text.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)


	 <p>The screenshot displays the Dish Movie interface for the film 'The Good, the Bad and the Ugly'. The interface includes a title bar with 'dish Movie' and navigation tabs for 'Summary', 'Cast', 'Reviews', and 'Parental Guide'. The main content area shows the movie title, year (1966), cast (Clint Eastwood, Eli Wallach, Lee Van Cleef), and a synopsis. A 'Watch On Demand' button is highlighted with a red box. A 'Description of Video' box points to the synopsis text.</p>
<p>(c) in response to the TV service subscriber selecting, via a control unit in communication with the set-top box, a first respective title associated with a first video content from the hierarchical structure of respective category information and subcategory information of the video-on-demand content menu using drill-down navigation,</p>	<p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p> <p>The Accused Products are programmed to perform the step of (c) in response to the TV service subscriber selecting, via a control unit in communication with the set-top box, a first respective title associated with a first video content from the hierarchical structure of respective category information and subcategory information of the video-on-demand content menu using drill-down navigation, transmitting the selection to the set-top box for display on the TV equipment.</p> <p>Subscribers select titles from the video-on-demand menu with a control unit, i.e., the remote control portion of the set-top box. The subscriber's selection is then transmitted to the remainder of the set-top box, which receives and processes the selection, in part by requesting the associated first video content from the video server for display on the TV</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

<p>transmitting the selection to the set-top box for display on the TV equipment; and</p>	<p>equipment.</p> <p>DISH's user guides indicate that the DISH receivers/DVRs are made to operate with remote controls.</p> <p>Remote Controls</p> <p>A remote control comes with each Hopper or Joey receiver. The remotes use Ultra-High Frequency Second Generation (UHF-2G) radio frequencies to control programming. Be sure to set up each remote control to pair with and operate the correct receiver in your home (see page 68).</p> <p>Hopper Whole-Home HD DVR System User Guide. https://www.dish.com/downloads/user_guides_and_manuals/hopperuserguide_user.pdf. Accessed 4/27/2020.</p> <p>REMOTE CONTROL</p> <p>The included remote control(s) give you access to all the features of your satellite TV system, including whole-home DVR services. You can set up each remote to control the receiver, via radio frequency (RF) signals, and as many as three other devices in the same room, via infrared (IR) signals (see page 71). These devices can be a TV, a DVD or Blu-ray Disc™ player (or VCR), and a third device (such as an audio component or even a second satellite TV receiver).</p> <p>Hopper Whole-Home HD DVR System User Guide. https://www.dish.com/downloads/user_guides_and_manuals/hopperuserguide_user.pdf. Accessed 4/27/2020.</p>
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Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

[54-Series DISH Remote Control Overview.

<https://my.dish.com/support/products/remotes/54>. Captured 1/8/2020]

DISH subscribers receive remotes to use with their receiver/DVRs, and the user manuals they are given tell them how to use the remotes to control the receiver/DVRs.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	<p>Your Remote</p> <p>The Hopper remote control makes it easy for you to watch, search, and record programming. Here's a quick overview of the basics to get you started.</p> <p>Welcome to Dish. https://my.dish.com/cms-files/support/products/hopper/hopper2/20200205/welcome.pdf. Accessed 4/27/2020.</p> <p>Alternatively, the set top box also includes one or more wireless receivers that receive the selection from the remote control and transmit that selection to the remainder of the set top box which processes the selection, in part by requesting the associated first video content from the video server for display on the TV equipment.</p> <p>Alternatively, controls on the front panel may also be used to transmit a selection of a first respective title to the remainder of the set top box which processes the selection, in part by requesting the associated first video content from the video server for display on the TV equipment.</p> <p>The Hopper 3, for example, includes arrow keys and a select key, which can be used to navigate and make selections from the video on demand content menu.</p>
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Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	<p data-bbox="695 250 961 315">Hopper 3</p> <p data-bbox="695 347 1646 373">Learn more about the Hopper 3, so you can get the most out of your award-winning receiver.</p>  <p data-bbox="680 646 1751 714">[DISH Hopper 3 Receiver Support. https://my.dish.com/support/receivers/hopper-3. Captured 1/8/2020]</p> <p data-bbox="680 750 1822 893">As shown in the above examples in the STB/Network Drill-Down, STB/TV Drill-Down, and STB/Genre Filter Drill-Down, a user may select a first title associated with a first video content from the hierarchical EPG's VOD content menu. When a user selects a title using the remote control, that title is displayed on the TV equipment.</p>
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Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

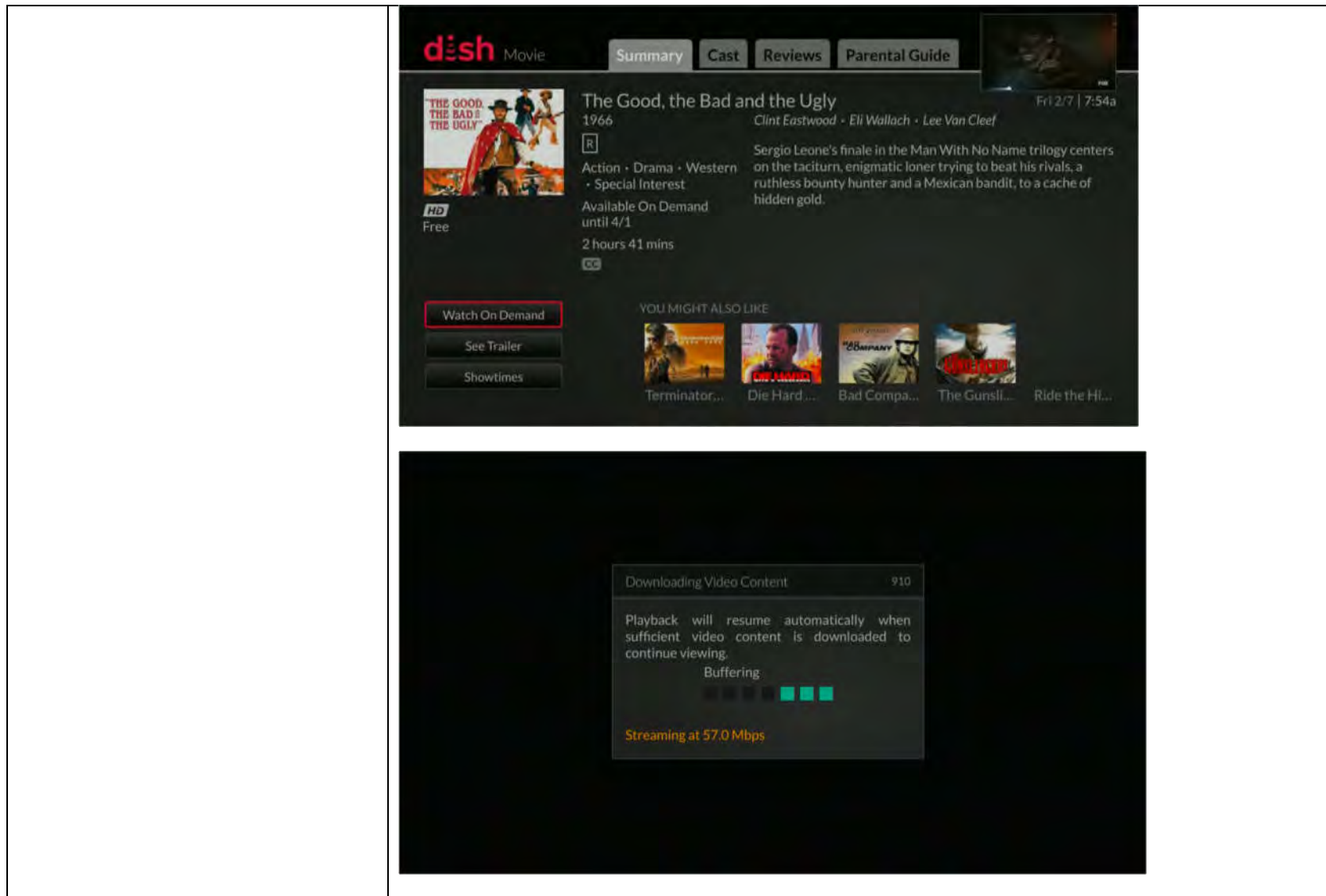



Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	 <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>(d) receiving, at the set-top box, the first video content for display on the TV equipment of the TV service subscriber, wherein in response to the selection the first video content was retrieved from a video server associated with the video-on-demand content delivery system.</p>	<p>The Accused Products are programmed to perform the step of (d) receiving, at the set-top box, the first video content for display on the TV equipment of the TV service subscriber, wherein in response to the selection the first video content was retrieved from a video server associated with the video-on-demand content delivery system.</p> <p>In the DISH system, in response to the subscriber's selection, the video content is retrieved from a video server associated with the video-on-demand content delivery system.</p>

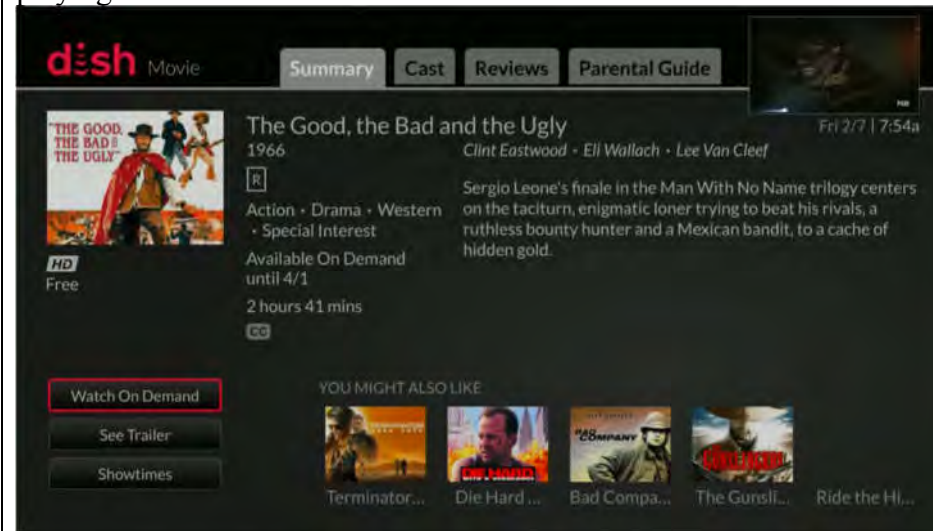
When a subscriber selects a video from their STB, the video is retrieved from a VOD Service Provider's video server/datastore, which as discussed above, is operated by DISH, DISH's Infrastructure Service Provider, or a third party CDN with whom DISH has contracted.



Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

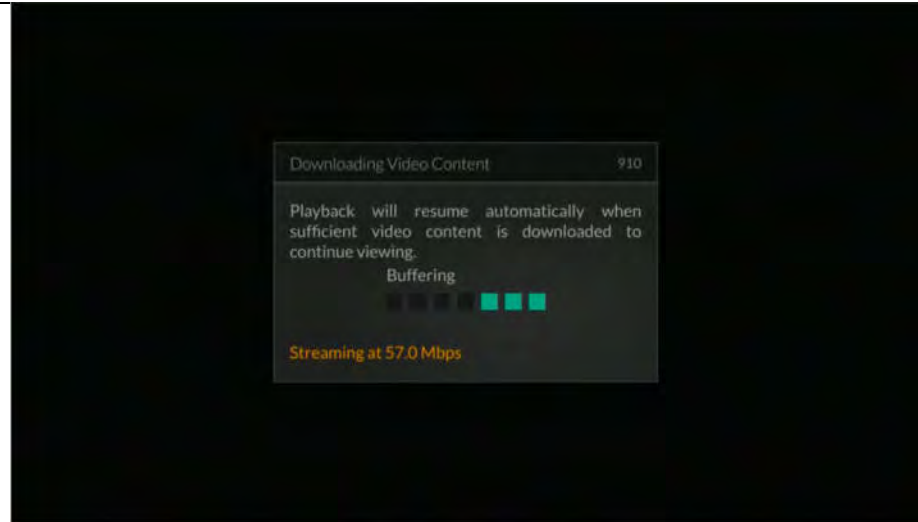
CMC Video On Demand Overview, Comcast, 2010.

For example, the movie “The Good, the Bad, and the Ugly” may be first video content that is selected by a subscriber. The subscriber may select “Watch On Demand” to start playing the content.



The STB receives the first video content from a video server associated with the VOD content delivery system. As shown below, the STB displays a message that it is “Downloading Video Content.”

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



Once the video is at least partially downloaded, the video is displayed on the TV equipment of the TV service subscriber.



Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)


	<p>The video content will continue downloading in the background while the subscriber watches the video content. For example, going back to the title details after selecting the show shows that DISH continues downloading the content.</p>  <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>2. The set-top box of claim 1, wherein the control unit is a remote control unit.</p>	<p>In the Accused Products, the control unit is a remote control unit.</p> <p>Customers may navigate through the hierarchical EPG using navigation buttons on a remote control in communication with the STB.</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	 <p>[54-Series DISH Remote Control Overview. https://my.dish.com/support/products/remotes/54. Captured 1/8/2020]</p> <p>An analysis of DISH's source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
3. The set-top box of claim 1, wherein the set-top box is	The Accused Products are programmed to allow the navigation through titles in a drill-down manner by navigation from a first level of the hierarchical structure of the video-on-

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

<p>programmed to allow the navigation through titles in a drill-down manner by navigation from a first level of the hierarchical structure of the video-on-demand content menu to a second level of the hierarchical structure to locate the particular one of the titles, wherein a first template of the plurality of different video display templates is used for displaying the first level of the hierarchical structure and wherein a second template of the plurality of different video display templates is used for displaying the second level of the hierarchical structure.</p>	<p>demand content menu to a second level of the hierarchical structure to locate the particular one of the titles, wherein a first template of the plurality of different video display templates is used for displaying the first level of the hierarchical structure and wherein a second template of the plurality of different video display templates is used for displaying the second level of the hierarchical structure.</p> <p>The EPG provided by DISH's STBs enables subscribers to navigate in a drill-down manner through titles by category information in order to locate a particular one of the titles desired for viewing.</p> <p>As shown above, the STB/TV Drill-Down, STB/Network Drill-Down, and STB/Genre Filter Drill-Down menus demonstrate navigating through titles in a drill down manner. Titles are located by navigating from a first level of the hierarchical structure to a second level of the hierarchical structure.</p> <p>The menus use one display template for a first level of a hierarchical structure (<i>e.g.</i>, a menu at a level higher than the title-specific menu shown in the STB/TV Drill-Down, STB/Network Drill-Down, and STB/Genre Filter Drill-Down screenshots above) and a different display template for a second, lower level of the hierarchical structure (<i>e.g.</i>, a title-specific menu).</p> <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>4. The set-top box of claim 3, wherein the first level of the hierarchical structure in the video-on-demand content menu comprises a link to the second level of the hierarchical structure</p>	<p>In the Accused Products, the first level of the hierarchical structure in the video-on-demand content menu comprises a link to the second level of the hierarchical structure in the video-on-demand content menu.</p> <p>As shown above, the STB/TV Drill-Down, STB/Network Drill-Down, and STB/Genre Filter Drill-Down menus demonstrate navigating through titles in a drill down</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

in the video-on-demand content menu.

manner. The first level of the structure comprises a link to the second level of the structure.

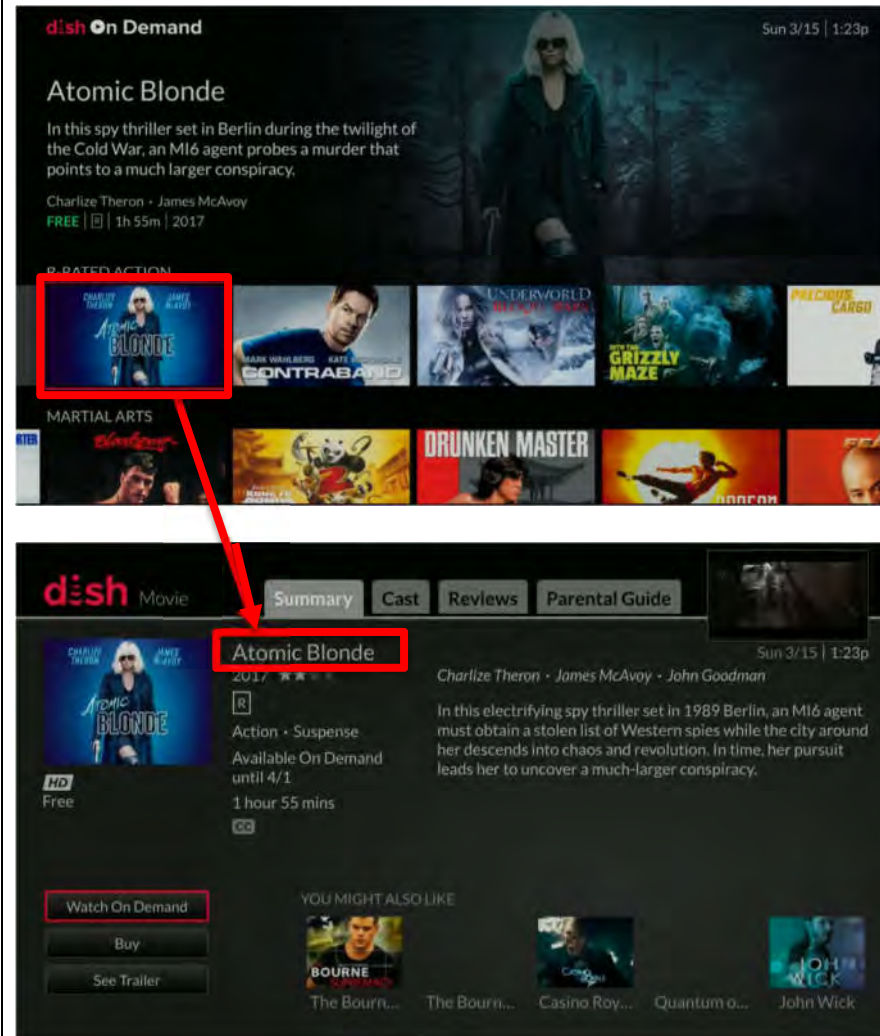


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

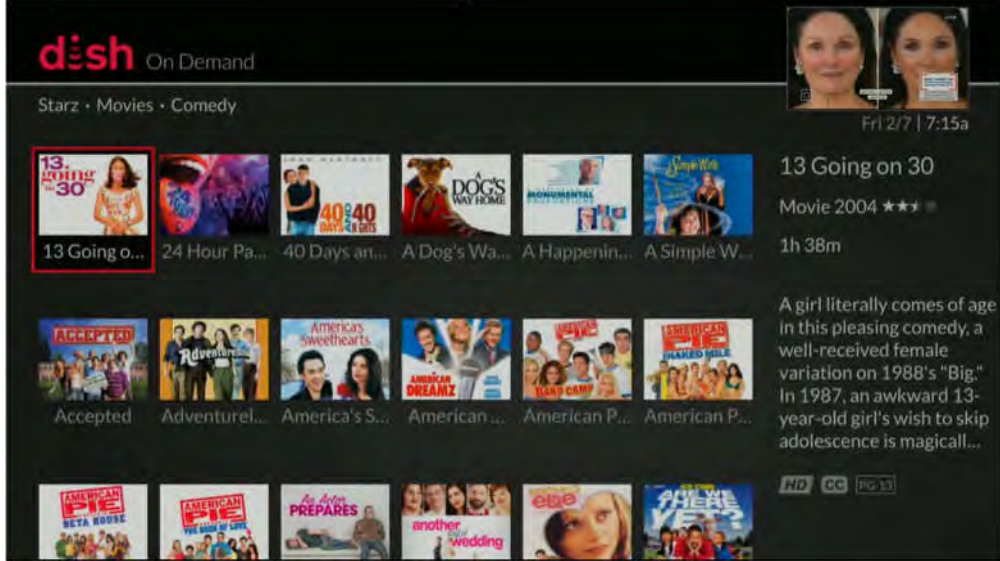
	<p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>5. The set-top box of claim 1, wherein at least a first video display template of the plurality of different video display templates is associated with at least the first video content provider.</p>	<p>In the Accused Products, at least a first video display template of the plurality of different video display templates is associated with at least the first video content provider.</p> <p>In DISH's STBs, templates may be associated with content providers. For example, one template is associated with content provider Starz.</p>  <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>

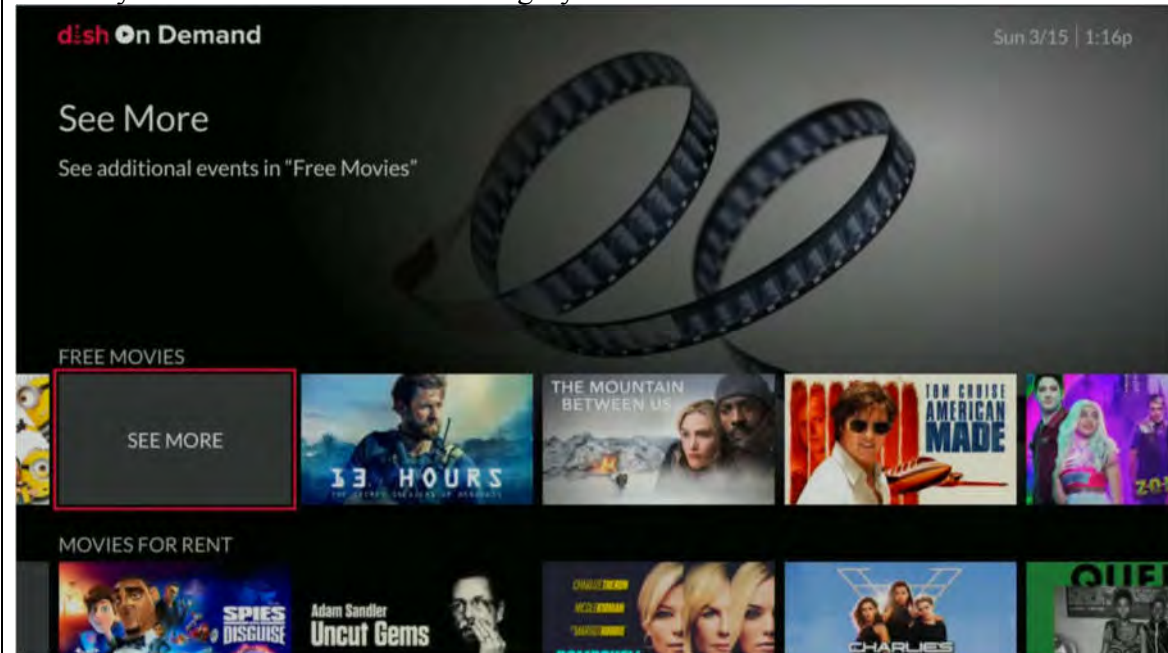
Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

6. The set-top box of claim 1, wherein some of the plurality of different video display templates correspond to different levels of the hierarchical structure of respective category information and subcategory information.

In the Accused Products, some of the plurality of different video display templates correspond to different levels of the hierarchical structure of respective category information and subcategory information.

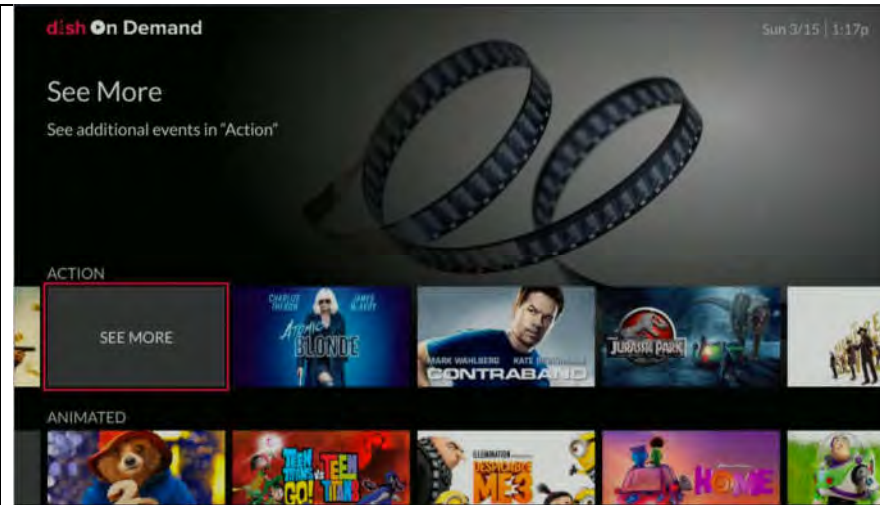
As shown above, the STB/TV Drill-Down, STB/Network Drill-Down, and STB/Genre Filter Drill-Down menus demonstrate navigating through titles in a drill down manner. The higher levels of the hierarchical structure shows category information, and each respective lower level shows subcategory information.

For example, as described in the STB/Genre Filter Drill-Down, from the top level menu, a user may select the “Free Movies” category.

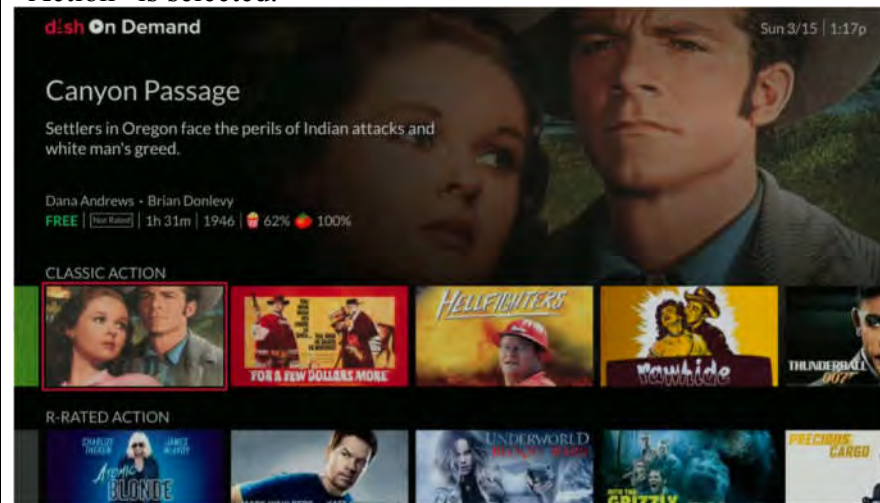


Subcategories of Movies are shown, such as “Action” and “Animated.”

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

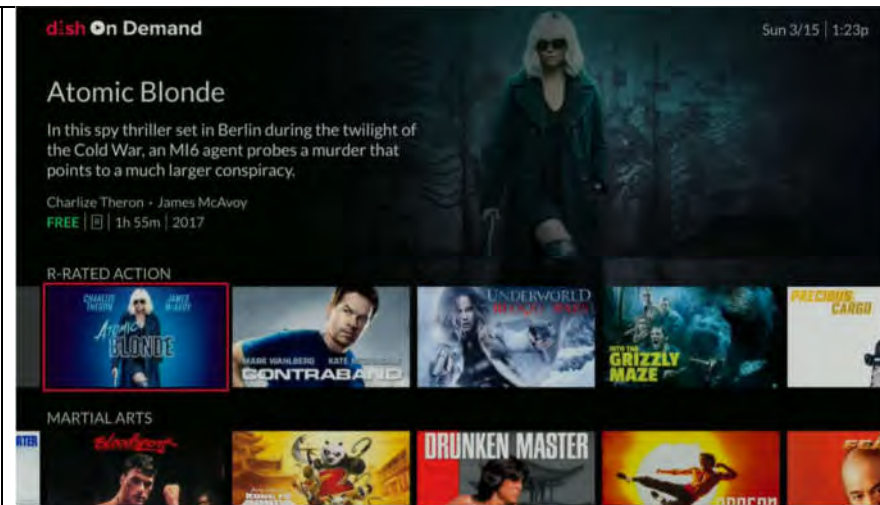


Further sub-categories such as “Classic Action,” and “R-Rated Action” are shown after “Action” is selected.

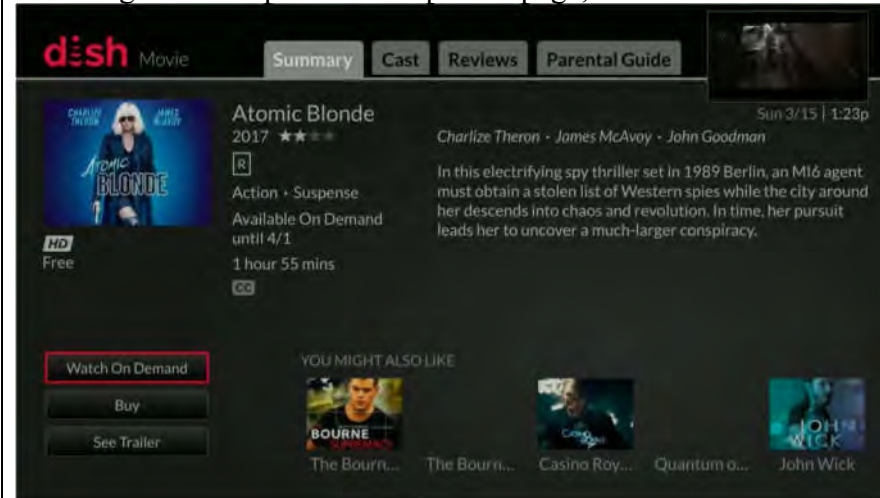


A user may select a title in the “R-Rated Action” subcategory such as “Atomic Blonde.”

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



Selecting the title opens a title-specific page, where more details are shown.



At each of these levels, one of a plurality of different video display templates corresponds to different levels of the hierarchical structure of respective category information and

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

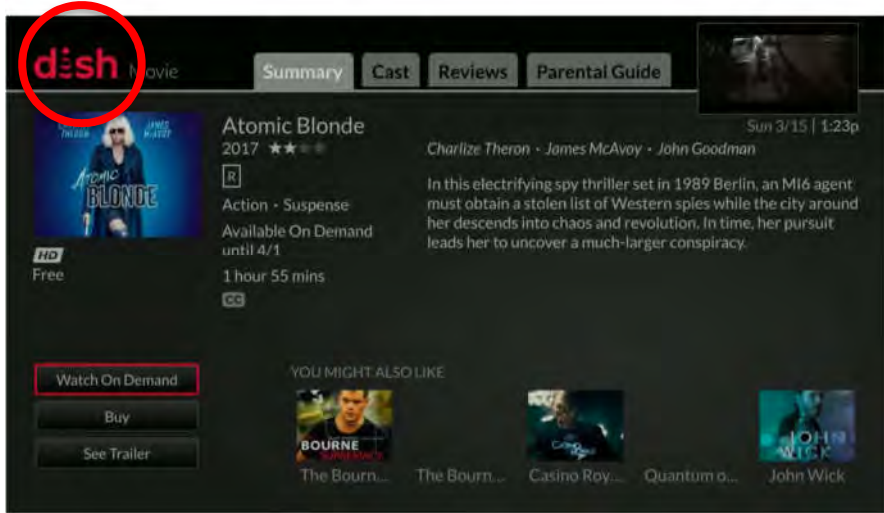
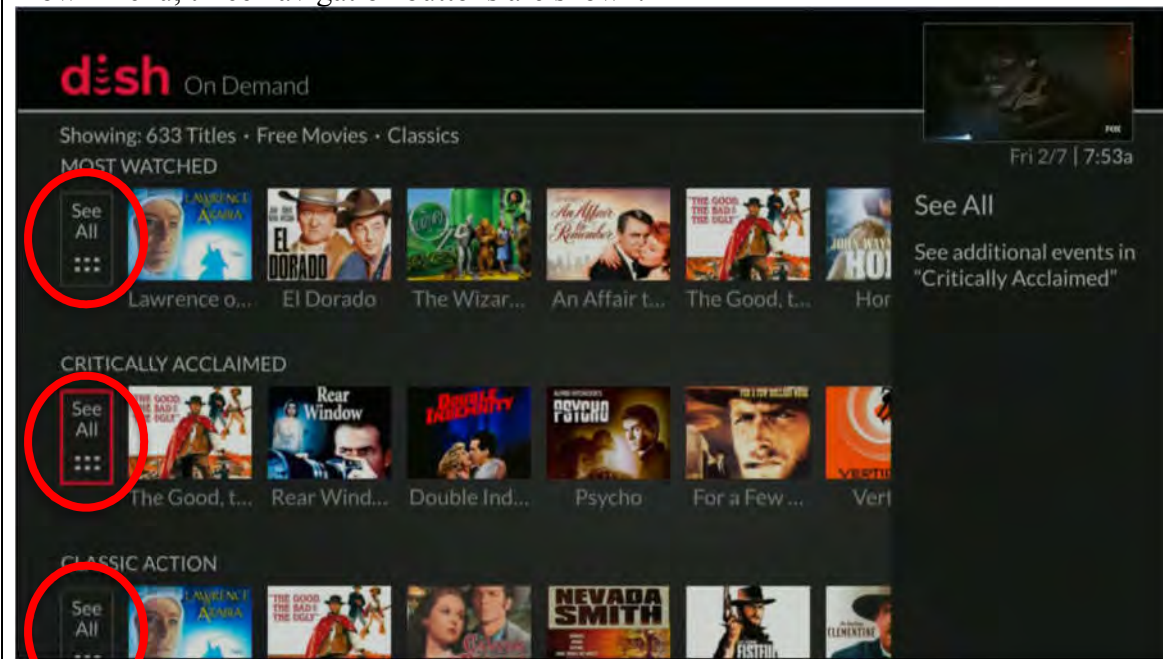
	<p>subcategory information.</p> <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>7. The set-top box of claim 1, wherein the at least one of the plurality of different video display templates is configured to display a logo frame.</p>	<p>In the Accused Products, the at least one of the plurality of different video display templates is configured to display a logo frame.</p> <p>As shown in the examples above, all DISH video display templates include a logo frame with the “DISH” logo in the upper left corner.</p>  <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

8. The set-top box of claim 1, wherein the at least one of the plurality of different video display templates is configured to provide navigation buttons.

In the Accused Products, the at least one of the plurality of different video display templates is configured to provide navigation buttons.

As shown above, the STB/TV Drill-Down, STB/Network Drill-Down, and STB/Genre Filter Drill-Down menus demonstrate navigating through titles in a drill down manner. Each of these menus features a navigation button on the left side for drilling down to a lower level. For example, in the Movies \ Classics level of the STB/Genre Filter Drill-Down menu, three navigation buttons are shown.



In DISH's updated EPG, this has migrated to a "See More" button.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

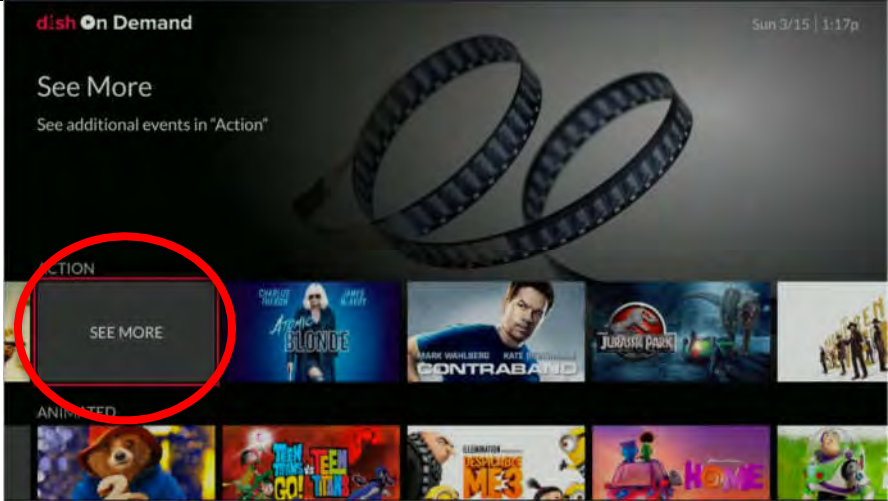
	 <p>The screenshot shows the Dish On Demand interface. At the top, it says 'dish On Demand' and 'Sun 3/15 1:17p'. Below that is a 'See More' section with the text 'See additional events in "Action"'. A red circle highlights a 'SEE MORE' button in the 'ACTION' category. Below the 'ACTION' category are movie posters for 'The Good, the Bad and the Ugly', 'CONTRABAND', and 'JURASSIC PARK'. Below the 'ACTION' category is an 'ANIMATED' category with movie posters for 'THE TIGER'S NEW YORK ADVENTURE', 'THE TIGER'S NEW YORK ADVENTURE', 'THE TIGER'S NEW YORK ADVENTURE', 'THE TIGER'S NEW YORK ADVENTURE', and 'THE TIGER'S NEW YORK ADVENTURE'.</p> <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>9. The set-top box of claim 1, wherein the at least one of the plurality of different video display templates is configured to provide viewer selection options.</p>	<p>In the Accused Products, the at least one of the plurality of different video display templates is configured to provide viewer selection options.</p> <p>For example, the DISH video display template for “The Good, the Bad and the Ugly” is configured to provide viewer selection options such as “See Trailer,” or “Showtimes.”</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

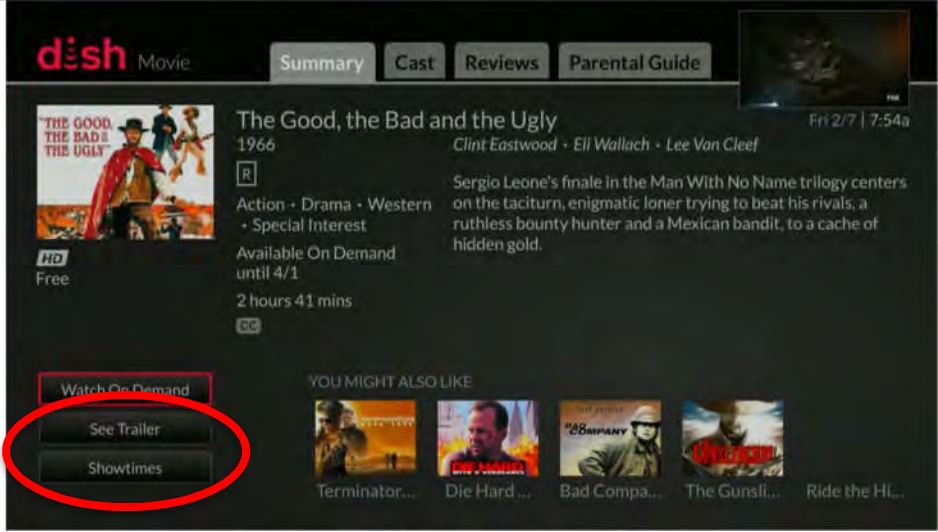
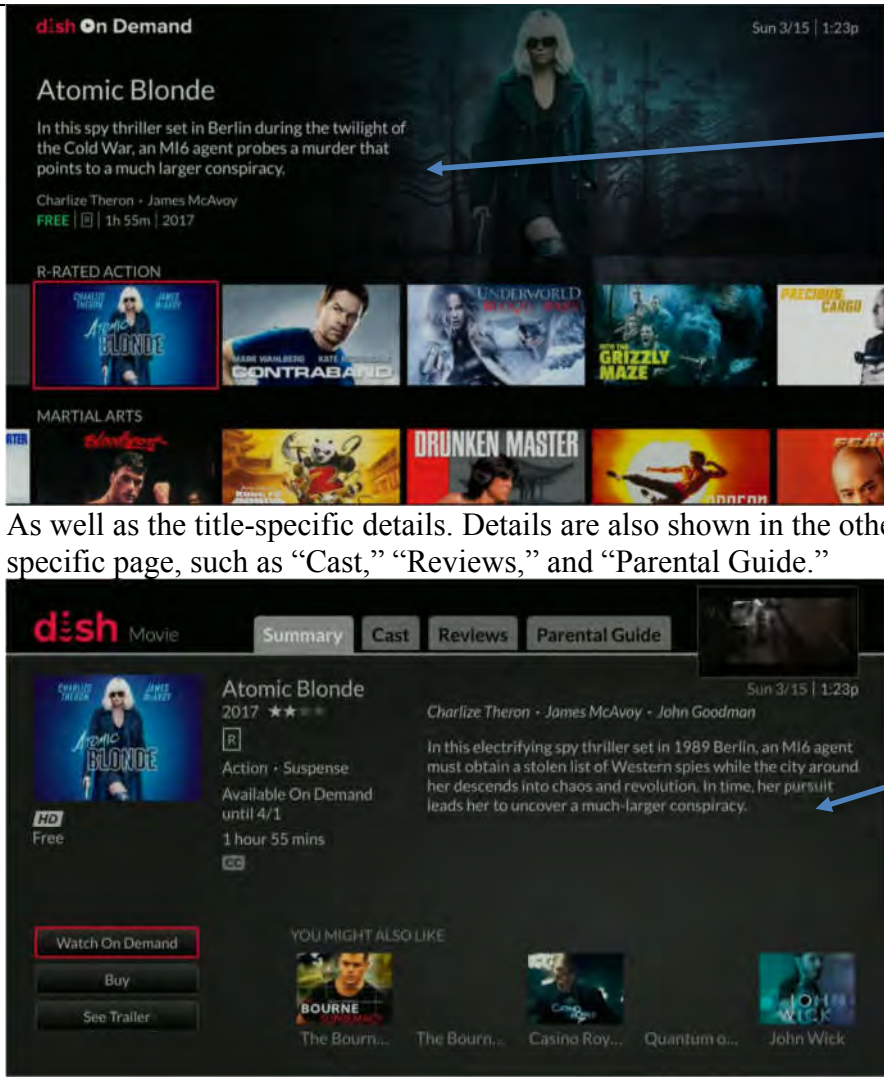
	 <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>10. The set-top box of claim 1, wherein the respective video-on-demand application-readable metadata further includes descriptive data about the video content.</p>	<p>In the Accused Products, the respective video-on-demand application-readable metadata further includes descriptive data about the video content.</p> <p>For example, when a user puts his or her selection on “Atomic Blonde,” the VOD metadata includes descriptive data about the video content. This is shown in both the higher level of the EPG....</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



Atomic Blonde

In this spy thriller set in Berlin during the twilight of the Cold War, an MI6 agent probes a murder that points to a much larger conspiracy.

Charlize Theron • James McAvoy

FREE | 1h 55m | 2017

R-RATED ACTION

MARTIAL ARTS

As well as the title-specific details. Details are also shown in the other “tabs” of the title-specific page, such as “Cast,” “Reviews,” and “Parental Guide.”

Atomic Blonde

2017 ★★☆☆

Action • Suspense

Available On Demand until 4/1

1 hour 55 mins

Watch On Demand

Buy

See Trailer

YOU MIGHT ALSO LIKE

The Bourn... The Bourn... Casino Roy... Quantum o... John Wick

Descriptive Data

Descriptive Data

An analysis of source code may be necessary to fully and accurately describe

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

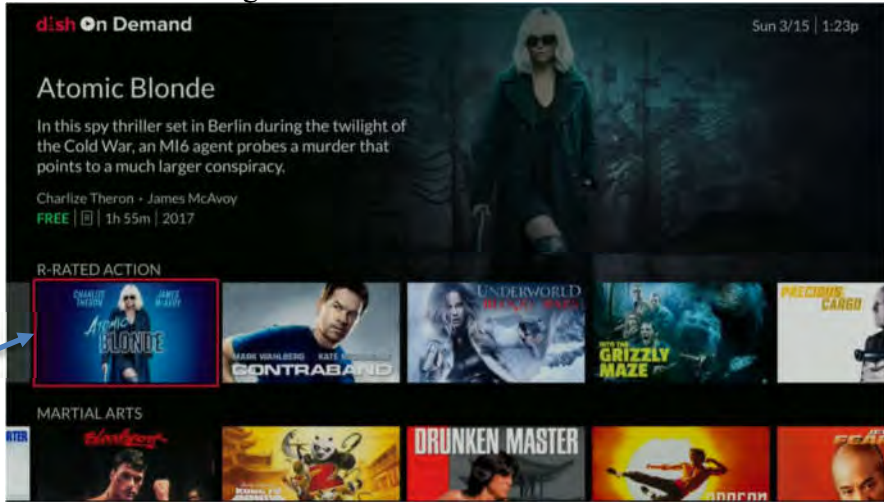
	<p>functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>11. The set-top box of claim 1, wherein the respective video-on-demand application-readable metadata further includes at least one display image associated with the video content.</p>	<p>In the Accused Products, the respective video-on-demand application-readable metadata further includes at least one display image associated with the video content.</p> <p>For example, “Atomic Blonde” shows a display image from the metadata in one level of the EPG. This image is associated with the video content.</p>  <p>This display image from the metadata is also shown in the title details page.</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

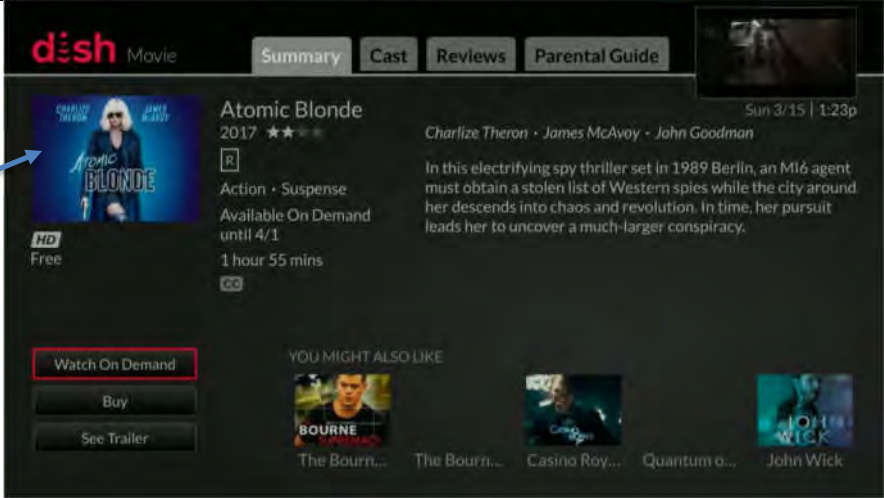
<p>Display Image</p>	 <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>12. The set-top box of claim 1, wherein the respective category information and subcategory information associated with the first video content correspond to one or more topics that pertain to video content from more than one content provider.</p>	<p>In the Accused Products, the respective category information and subcategory information associated with the first video content correspond to one or more topics that pertain to video content from more than one content provider.</p> <p>In the first level of the STB/Genre Filter Drill Down menu, categories associated with VOD Content correspond to topics that pertain to VOD content from more than one content provider. For example, the category “R-Rated Action” pertains to “Atomic Blonde” which is provided by FX and “Into the Grizzly Maze” which is provided by Starz.</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

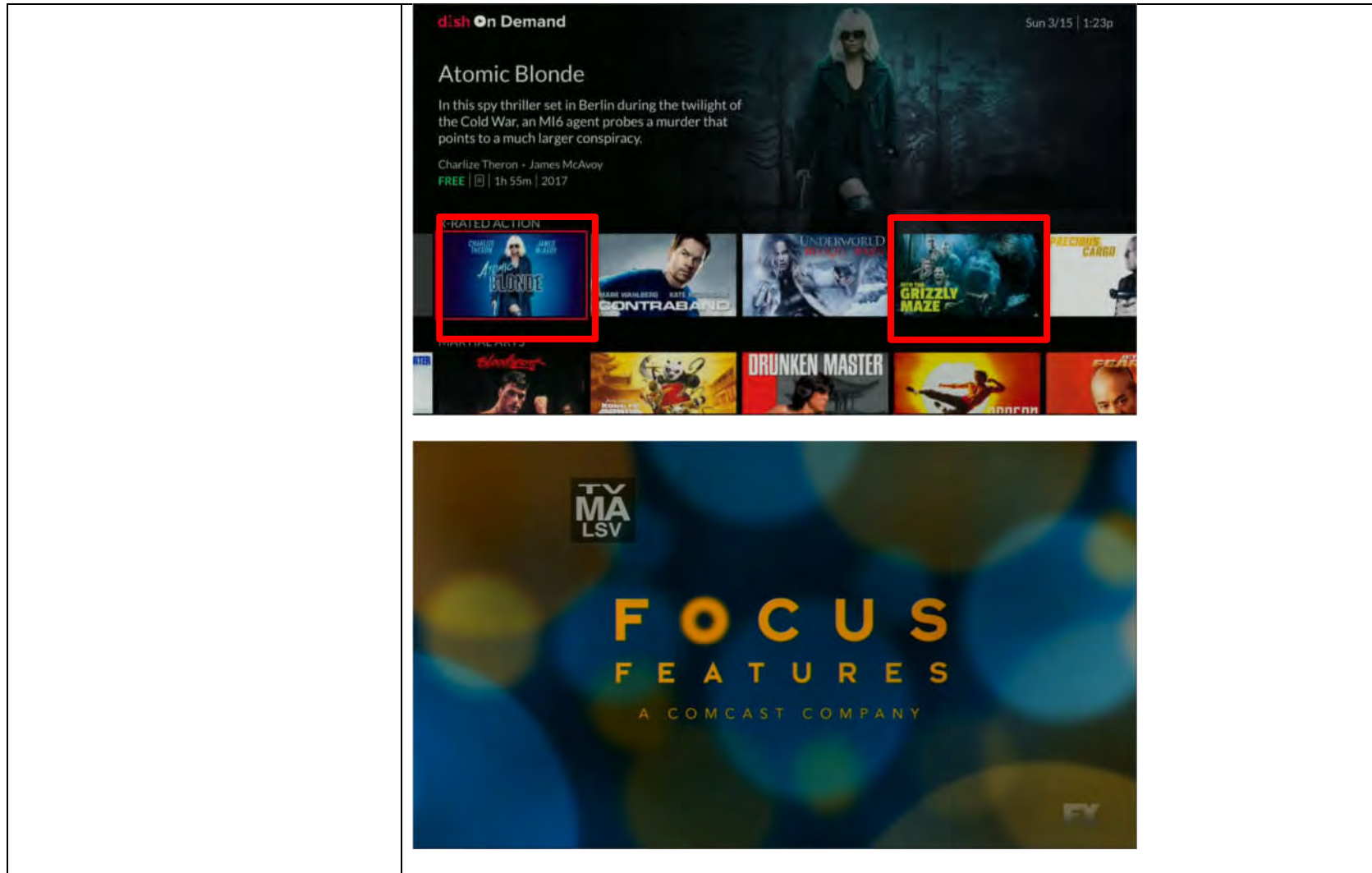


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)


	 <p>Additional examples are evident from the screenshots shown in support of claim 1.</p> <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>13. The set-top box of claim 1, wherein the set-top box is further programmed to generate, using at least one of the plurality of different video display templates, a templated video-on-demand display that comprises a background and a template layer having one or more areas for display of metadata provided by</p>	<p>The Accused Products are further programmed to generate, using at least one of the plurality of different video display templates, a templated video-on-demand display that comprises a background and a template layer having one or more areas for display of metadata provided by the video content provider.</p> <p>For example, in the title details page for “Atomic Blonde,” the templated VOD display comprises a background and template layer for metadata to be displayed.</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

the video content provider.

Metadata provided by video content provider

Background layer

Template layer with area for display of metadata

As described above, the layout of the EPG for different video content is identical, with content for different shows placed in the same areas, showing that a template is used across the EPG. Because the same template is used for the two titles below, the layout of their metadata is the same.

The image displays two screenshots of the Dish Movie interface, illustrating a consistent template layout for different video content. The first screenshot shows the page for 'Atomic Blonde' (2017), and the second shows the page for 'A Dog's Way Home' (2019). Both pages feature a 'Summary' tab, a cast list, a synopsis, and a 'Watch On Demand' button. The layout is identical for both titles, demonstrating the use of a template across the EPG.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

As described above, this metadata is provided by the video content provider through the web interface of the Infrastructure service provider. The associated metadata uploaded with the video content for the Accused Products includes information such as title information, summary information, and a description. CMC's Express Lane interface is shown as an example, below.

The screenshot displays the 'VOD Asset Information - page 1' screen. The interface includes a navigation bar with links: Campaigns, Library, Create, Search, Contact, Help, and Portal. A search bar is located on the right. The main form contains the following fields and annotations:

- Title (max 35 characters):** 0007 - CMC on a Mission Pt 3. A red box highlights this field, and a callout states: 'Yellow highlight indicates customer facing fields'.
- Title Brief (max 19 characters):** 0007 - Pt 3.
- Summary Short (max 255 characters):** Part 3 - The mission was the learn what the CMC is capable of. 0007 goes in undercover to locate and gather more information.
- License Window Start:** 2/12/2010.
- License Window End:** 12/31/2010. A callout points to the calendar widget used for date selection.
- Duration (hh:mm:ss):** 00 : 02 : 22.
- Billing ID (max 5 characters):** Optional, can be changed. 00000.
- Rating (MPAA Ratings should be used for MPAA Rated content only):** TV-G. A callout points to the rating drop-down box.

A callout on the right side of the screen states: 'Do not copy and paste from Microsoft Word or Excel. Unrecognized fonts and characters can cause issues in the VDS process. Notepad can be used, if copy and paste are necessary.' A yellow highlight at the bottom right indicates a field is customer facing.

Below the main screenshot, a zoomed-in view of the 'Title (max 35 characters)' field is shown, with the text '0007 - CMC on a Mission Pt 3'.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

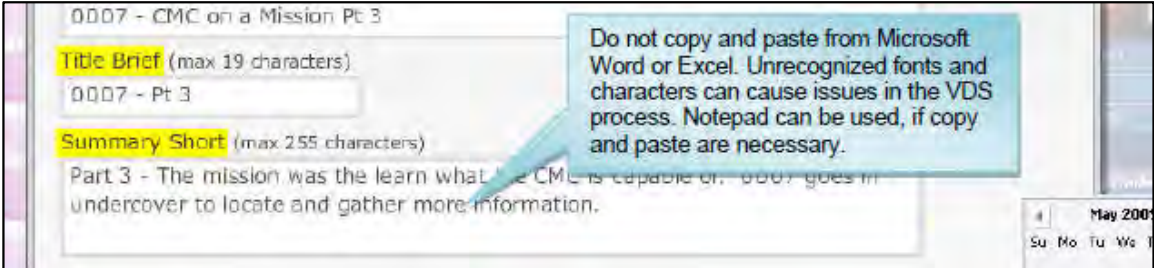
	<p>1. Enter the Title of the asset. The title is the name of the VOD asset you are uploading (e.g. "The Titanic"). You may not use the same value for multiple assets or use all capitals. To compensate for the length, use common abbreviations, if needed. The maximum length of this field is 35 characters. <i>(Required)</i>.</p>  <p>Express Lane User Guide v3.11; Comcast 2010.</p> <p>3. Enter a short summary of the asset into the Summary Short field. This is a sentence that provides a short summary of the VOD asset, usually typed in by the provider (e.g. "Fictional romantic tale of a rich girl and poor boy who meet on the ill-fated voyage of the 'un-sinkable' ship"). Spelling, grammar, and capitalization are important as the data typed here displays to the viewer. The maximum length of this field is 255 characters, including punctuation, spaces, alphanumeric and special characters. <i>(Required)</i>.</p> <p>Express Lane User Guide v3.11; Comcast 2010.</p> <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>14. The set-top box of claim 1, wherein the set-top box is further programmed to track viewer navigation paths corresponding to</p>	<p>The Accused Products are further programmed to track viewer navigation paths corresponding to the drill-down navigation.</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

the drill-down navigation.	<p>For example, the DISH Privacy Policy notes that it tracks “application usage data.” This application usage data includes tracking drill down navigation paths.</p> <div data-bbox="674 350 1835 727" style="background-color: #f0f0f0; padding: 10px;"> <p>B. Usage Information</p> <p>When you use our services, our devices and apps automatically collect usage information. Usage information may include application usage data and logs, including device type and ID, IP address, and location information. This usage information may be in various formats (electronic, audio, and other), and may be collected through the set top box or satellite receiver, through related equipment such as a remote control or voice control device, or other devices such as third-party streaming devices or applications provided through or used to access our services. Please see Third-Party Services and Websites below for more information.</p> <p>C. Viewership</p> <p>When you or someone in your household watches a video program, whether using your set-top box or the DISH Anywhere® App, we may collect a record of your viewing activity. This applies to live television programming as well as video on demand, pay per view, and DVR services.</p> </div> <p>DISH Privacy Policy. https://my.dish.com/privacy-policy. Captured 3/30/2020.</p> <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
15. The set-top box of claim 1, wherein the set-top box is further programmed to generate the video-on-demand content menu dynamically by retrieving menu content from a database operatively connected to the video-on-demand content delivery system and using the retrieved menu content with the at least one	<p>The Accused Products are further programmed to generate the video-on-demand content menu dynamically by retrieving menu content from a database operatively connected to the video-on-demand content delivery system and using the retrieved menu content with the at least one of the plurality of different video display templates.</p> <p>The DISH STBs generate the video-on-demand content menu dynamically by retrieving menu content from a database operatively connected to the video-on-demand content delivery system.</p> <p>As discussed above, metadata is entered into the Infrastructure Service Provider’s</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

of the plurality of different video display templates.

interface. In the example below, information including the title is entered into CMC's Express Lane interface.

VOD Asset Information Screen - Page 1

Campaigns Library Create Search Contact Help Portal

quick search search here

VOD Asset Information - page 1

Detailed and accurate metadata is important to ensure your spot displays properly on VOD.

Back to Menu

Title (max 35 characters)
0007 - CMC on a Mission Pt 3

Title Short (max 19 characters)
0007 - Pt 3

Summary Short (max 255 characters)
Part 3 - The mission was the learn what the CMC is capable of. Under goes in undercover to locate and gather more information.

License Window Start
2/12/2010

License Window End
12/31/2010

Duration (hh:mm:ss)
00 : 02 : 22

Billing ID (max 5 characters) Optional, can be changed
00000

Rating (MPAA Ratings should be used for MPAA Rated content only)
TV-9

< Back Next >

Logout

Yellow highlight indicates customer facing fields

Do not copy and paste from Microsoft Word or Excel. Unrecognized fonts and characters can cause issues in the VDS process. Notepad can be used, if copy and paste are necessary.

Calendar widget

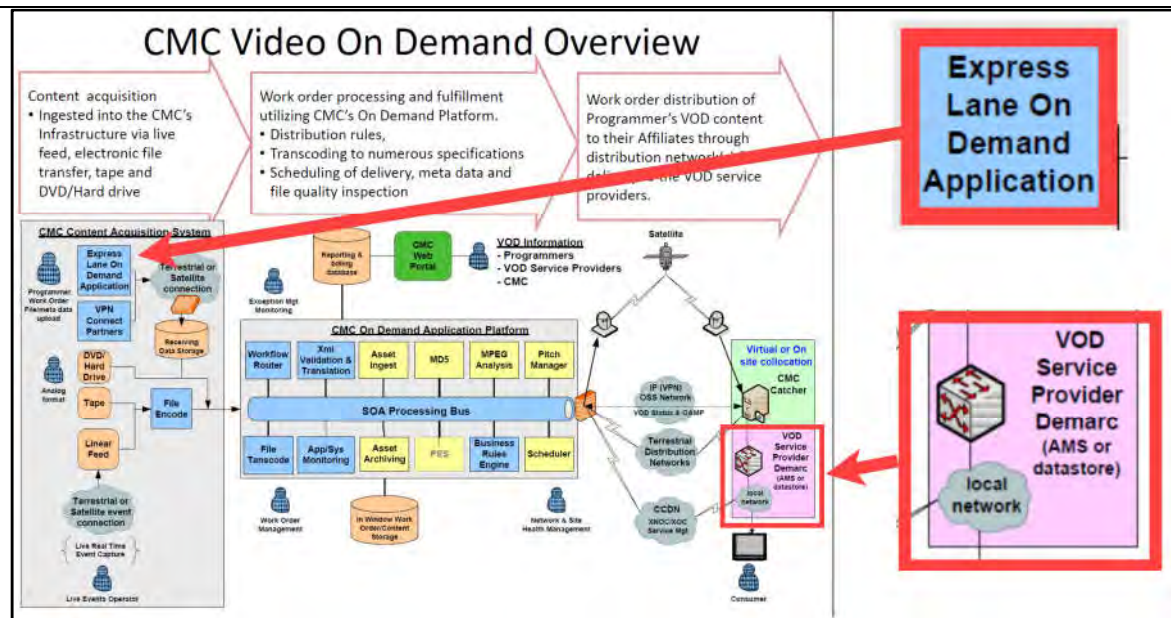
Rating drop-down box

Highlight indicates field is customer facing.

Express Lane User Guide v3.11, Comcast, 2010.

The metadata entered into the Infrastructure Service Provider's interface is processed and stored in a VOD Service Provider's datastore. The content is retrieved from this datastore to generate the VOD content menu. CMC's VOD system is shown as an example, below.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)



CMC Video On Demand Overview; Comcast, 2010.

The DISH STBs generate the VOD content menu dynamically, using the retrieved menu content with the at least one of the plurality of different video display templates.

By watching the DISH STB gradually build its displays, it is clear that the STB generates the menu dynamically. It retrieves menu content from the VOD Service Provider datastore and generates a display by layering a template with areas for the display of metadata over a background and then populating the metadata areas of the display with metadata. For example, when a user opens the highest level of the VOD EPG, data is loaded in regarding available movies and TVs. In the example below, a template for both “the unexplained watch event” and “free movies” is shown as the EPG is loading. These reserved areas of the template are populated with cover art as the display is completed.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

The image displays two screenshots of the Dish On Demand interface. The top screenshot shows a menu titled "THE UNEXPLAINED WATCH EVENT" with four highlighted options: "ANCIENT ALIENS", "EXPEDITION BIGFOOT", "GHOST ADVENTURES", and "IN SEARCH OF MONSTERS". The bottom screenshot shows the same menu with the same four options highlighted, but with additional thumbnails visible below them, including "ANCIENT ALIENS", "EXPEDITION BIGFOOT", "GHOST", "MONSTERS", and "PROJECT BLUE BOOK". Red arrows point from the highlighted options in the top screenshot to the corresponding thumbnails in the bottom screenshot.

[DISH STB screen captures were captured on a Hopper with Sling through a Slingbox 500].
This behavior is seen at various levels of the EPG.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

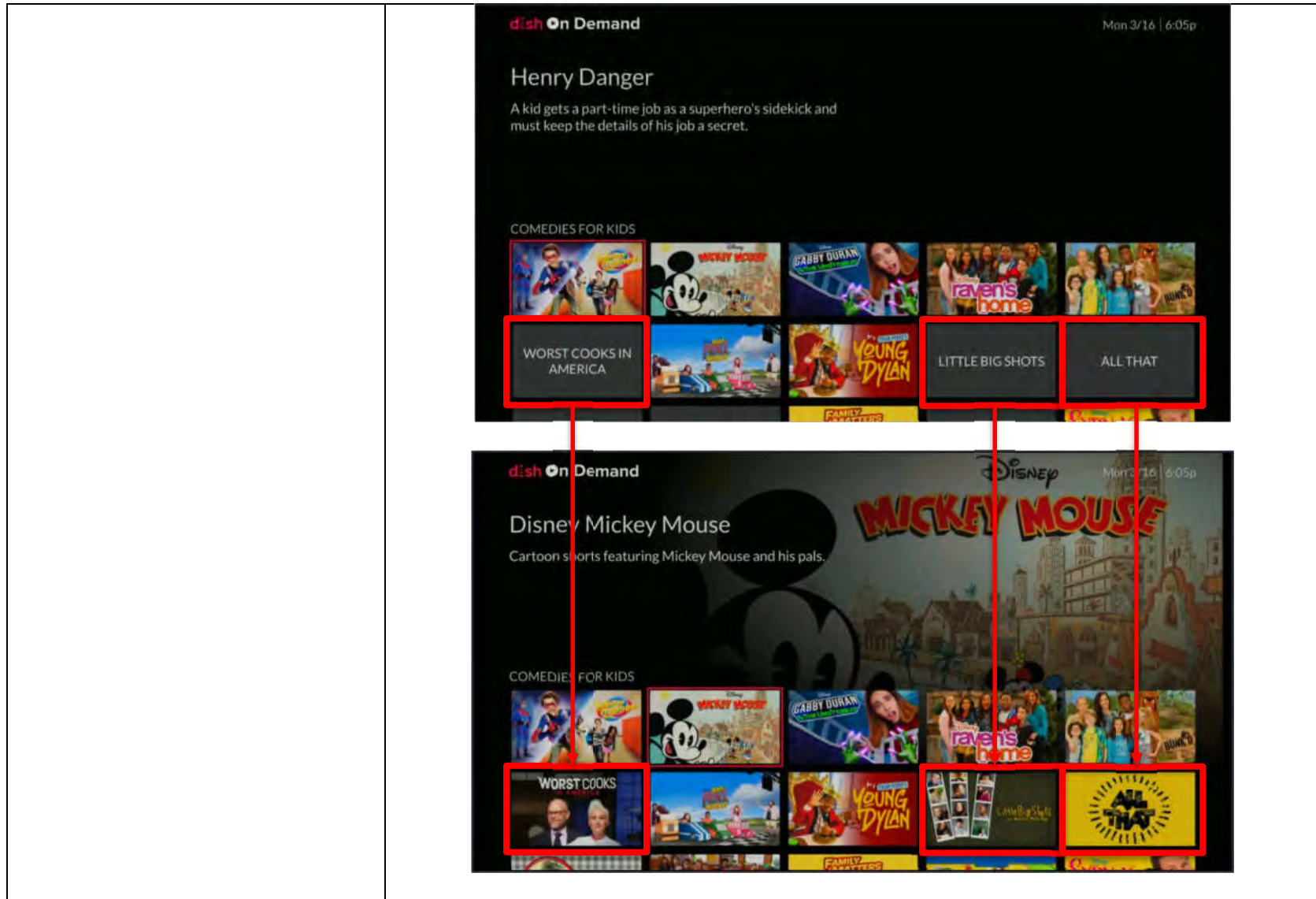


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.
16. The set-top box of claim 1, wherein the set-top box is further programmed to generate, by real-time database queries of the respective category information and subcategory information uploaded by each respective video content provider, the hierarchical structure of category information and subcategory information in the video-on-demand content menu.	<p>The Accused Products are further programmed to generate, by real-time database queries of the respective category information and subcategory information uploaded by each respective video content provider, the hierarchical structure of category information and subcategory information in the video-on-demand content menu.</p> <p>DISH STBs generate, by real-time database queries of the respective category information and subcategory information uploaded by each respective video content provider.</p> <p>From the delays observed as a DISH STB builds its templated displays, it appears that the metadata used to construct its displays is loaded from the CMC system in response to real time database queries. This would ensure that the content displayed is available to be viewed. As seen below, the title “Ancient Aliens” is first displayed with a the title as text.</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)


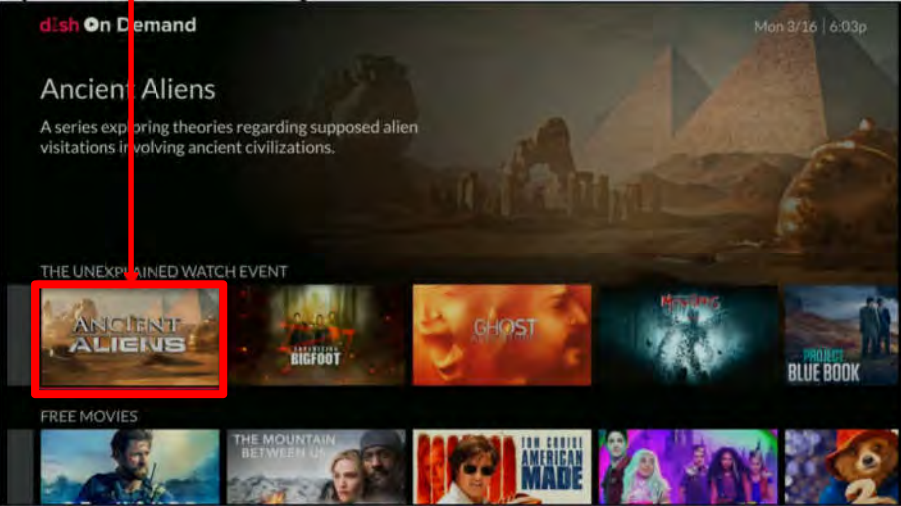
	 <p>After a delay, the title's icon is replaced with cover art.</p>  <p>DISH STBs generate the hierarchical structure of category information and subcategory information in the video-on-demand content menu with category</p>
--	---

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

information and subcategory information uploaded by each respective video content provider.

The Infrastructure Service Provider's interface allows content providers to control the categories and folders in which assets will appear. CMC's Express Lane interface is shown as an example, below.

The screenshot displays the 'VOD Asset Information - page 2' interface. The top navigation bar includes links for Campaigns, Library, Create, Search, Contact, and Help Portal, along with a quick search bar. The main form contains the following sections:

- Genres:** A list box with options: Music, Series, Sports, and Other. A blue callout points to this section with the text: 'Added Actors appear and can be removed from here'.
- Actors:** A text input field with a character limit of 35. Below it are 'Add Actor' and 'Remove Actor' buttons.
- Description:** A text input field with a character limit of 128.
- VOD Categories/Folders:** A list box with options: Tier3/Kids/Parental Controls, Your Business/Business Resources, and Your Business/Business Solutions. A red box highlights this section, and a blue callout points to it with the text: 'Select Categories/Folders for how VOD asset will appear'.
- Closed Captioning:** A checkbox.
- Navigation:** '< Back' and 'Next >' buttons.
- Footer:** A 'Logout' button and a note: '* Required Highlight indicates field is customer facing'.

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

	<p style="text-align: center;">Using Express Lane</p> <p>The following pages will help you understand how to use the Express Lane application to upload both metadata and media content into the CMC VOD workflow. As a provider of content, you are solely responsible to ensure the accuracy of the metadata information that you are submitting for processing at the CMC.</p> <p>Express Lane User Guide v3.11; Comcast, 2010.</p> <p>The uploaded category and subcategory information is used by the EPG to determine what category the asset is shown in.</p> <p>4. In the VOD Categories/Folders field, select those categories and folders where you would like your asset to appear. These are human-readable categories and sub-categories which affects how the VOD asset is presented to customers (e.g. "Movies/Movies A-Z"). Press and hold the Ctrl key and click if you wish to choose to select multiple items/folders as you scroll through the list. MSOs may customize each folder with mappings called "Destination Folders", which are currently available in our existing VOD process. If the desired folder is not present in the list, follow the process in Appendix D. <i>(Required)</i>.</p> <p>Express Lane User Guide v3.11; Comcast, 2010.</p> <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>17. The set-top box of claim 1, wherein the video-on-demand content menu comprises a search interface that allows the TV subscriber to search a video content database based on specified characteristics.</p>	<p>In the Accused Products, the video-on-demand content menu comprises a search interface that allows the TV subscriber to search a video content database based on specified characteristics.</p> <p>DISH's VOD content menu allows subscribers to search for videos by various features such as title or star's name.</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

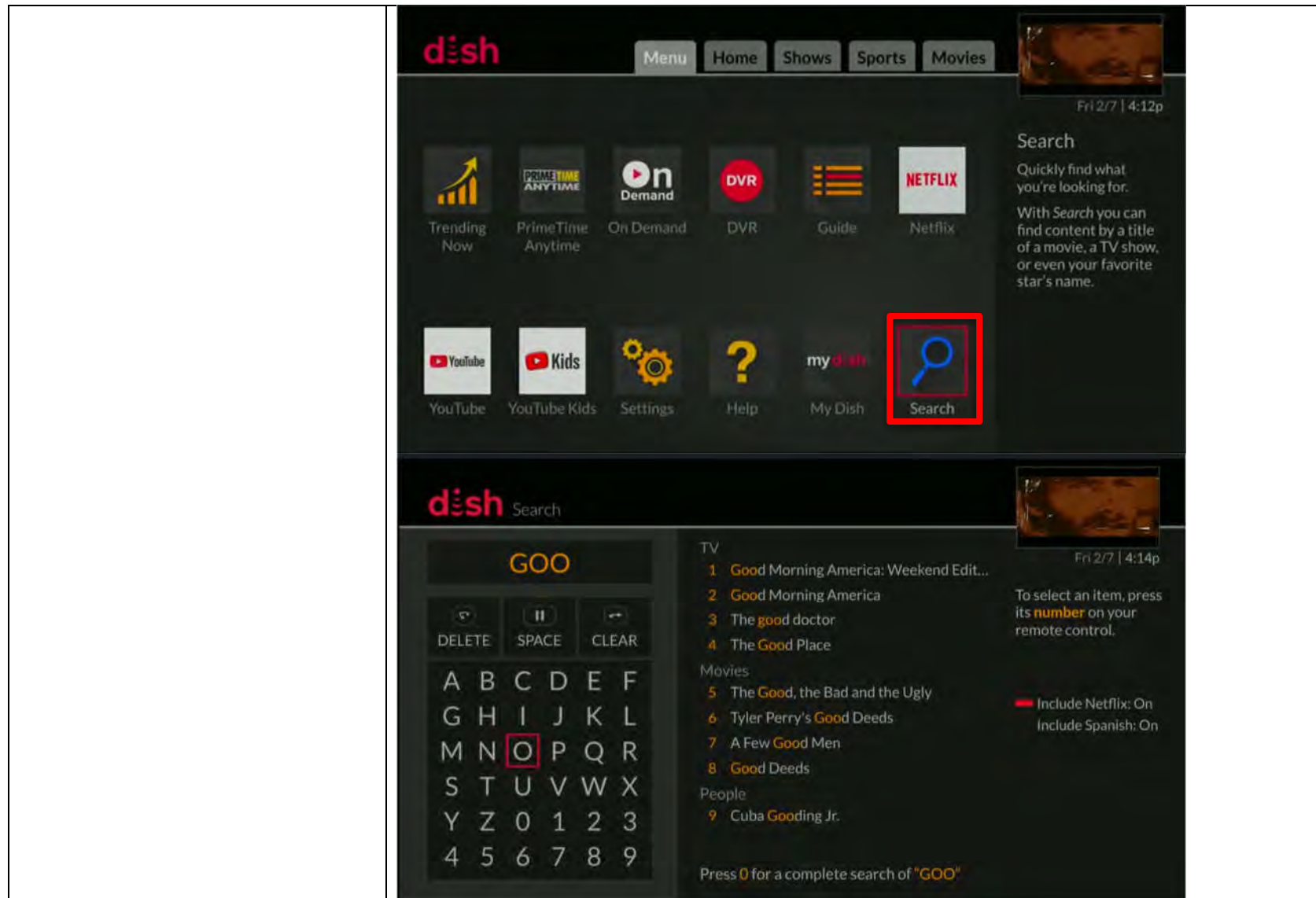


Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)


	 <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>18. The set-top box of claim 1, wherein the video-on-demand content menu is an interactive user interface.</p>	<p>In the Accused Products, the video-on-demand content menu is an interactive user interface. The user operates a remote control, as shown in the support for element 1(c) above, to interact with the video-on-demand interface.</p> <p>An analysis of source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
<p>19. The set-top box of claim 1, wherein the set-top box is further programmed to generate a templated video-on-demand</p>	<p>The Accused Products are further programmed to generate a templated video-on-demand display that comprises a background screen using at least one of the plurality of different video display templates.</p>

Exhibit 4 (Claim Chart for U.S. Patent No. 9,648,388)

display that comprises a background screen using at least one of the plurality of different video display templates.	<p><i>See support for claims 1 and 13.</i></p> <p>An analysis of DISH's source code may be necessary to fully and accurately describe functionality of the Accused Products with respect to this limitation and, accordingly, Plaintiff reserves the right to supplement these infringement contentions once such information is made available to Plaintiff.</p>
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Exhibit 23

Business Profile Record

Source Information

Information Current Through: 04/24/2020
Database Last Updated: 04/29/2020
Update Frequency: MONTHLY
Current Date: 05/11/2020

Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
Secondary SIC Code 1: 7622 RADIO AND TELEVISION REPAIR
Secondary SIC Code 2: 5731 RADIO, TELEVISION, AND ELECTRONIC STORES
Primary NAICS Code: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
Secondary NAICS Code 2: 811211 CONSUMER ELECTRONICS REPAIR AND MAINTENANCE
Affiliate Immediate Parent: ECHOSPHERE L.L.C.
Affiliate Ultimate Parent: DISH NETWORK CORPORATION

Business Information

Business Name: DISH NETWORK BY DISH SAT TV
Primary Address: 107 E 5TH ST AUSTIN, TX 78701-3601
County: TRAVIS
Country: USA
Business Phone: 512-318-2673
Web Address: www.dish.com
Employees at Location (Year): 6
Sales from Location (Year): \$6,681,000 (2017)

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Business Profile Record

Source Information

Information Current Through: 04/24/2020
 Database Last Updated: 04/29/2020
 Update Frequency: MONTHLY
 Current Date: 05/11/2020

Business Information

Business Name: DISH NETWORK
 Primary Address: 6306 MENCHACA RD
 AUSTIN, TX 78745-4929
 County: TRAVIS
 Country: USA
 Business Phone: 512-879-4358
 Web Address: www.dish.com
 Employees at Location (Year): 5
 Sales from Location (Year): \$1,148,000 (2018)

Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
 Secondary SIC Code 1: 5731 RADIO, TELEVISION, AND ELECTRONIC STORES
 Primary NAICS Code: 517311 WIRED TELECOMMUNICATIONS CARRIERS
 Secondary NAICS Code 2: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
 Affiliate Immediate Parent: ECHOSPHERE L.L.C.
 Affiliate Ultimate Parent: DISH NETWORK CORPORATION

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Business Profile Record

Source Information

Information Current 04/24/2020
 Through:
 Database Last Updated: 04/29/2020
 Update Frequency: MONTHLY
 Current Date: 05/11/2020

Business Information

Business Name: [DISH NETWORK](#)
 Primary Address: [915 COLORADO ST](#)
[AUSTIN, TX 78701-2324](#)
 County: TRAVIS
 Country: USA
 Business Phone: [512-261-6387](#)
 Web Address: [www.dish.com](#)
 Year Established: 2007
 Employees at Location (Year): 1
 Sales from Location (Year): \$646,000 (2013)

Business Description:

Primary SIC Code: 4841 CABLE AND
 OTHER PAY TELEVISION
 SERVICES
 Secondary SIC Code 5731 RADIO,
 1: TELEVISION, AND
 ELECTRONIC STORES
 Secondary SIC Code 5065 ELECTRONIC
 2: PARTS AND EQUIPMENT,
 NEC
 Primary NAICS 517311 WIRED
 Code: TELECOMMUNICATIONS
 CARRIERS
 Secondary NAICS 515210 CABLE AND
 Code 2: OTHER SUBSCRIPTION
 PROGRAMMING
 Affiliate Immediate [ECHOSPHERE L.L.C.](#)
 Parent:
 Affiliate Ultimate [DISH NETWORK](#)
 Parent: CORPORATION

Executive Information

Contact: [KYLER SCATES](#)
 Contact's Title: ADMINISTRATOR

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Business Profile Record

Source Information

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 Update Frequency: MONTHLY
 Current Date: 05/11/2020

Business Information

Business Name: DISH NETWORK
 Primary Address: 1024 E ANDERSON LN
 AUSTIN, TX 78752-1702
 County: TRAVIS
 Country: USA
 Business Phone: 512-895-9190
 Web Address: www.dish.com
 Year Established: 2008
 Employees at Location (Year): 8
 Sales from Location (Year): \$646,000 (2008)

Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
 Secondary SIC Code 1: 7622 RADIO AND TELEVISION REPAIR
 Secondary SIC Code 2: 5731 RADIO, TELEVISION, AND ELECTRONIC STORES
 Primary NAICS Code: 517311 WIRED TELECOMMUNICATIONS CARRIERS
 Secondary NAICS Code 2: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
 Affiliate Immediate Parent: ECHOSPHERE L.L.C.
 Affiliate Ultimate Parent: DISH NETWORK CORPORATION

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Business Information

Business Name: DISH NETWORK
 Primary Address: 111 CONGRESS AVE
 AUSTIN, TX 78701-4050
 County: TRAVIS
 Country: USA
 Business Phone: 512-870-8221
 Web Address: www.dish.com
 Employees at Location (Year): 8
 Sales from Location (Year): \$8,908,000 (2018)

Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
 Secondary SIC Code 1: 7622 RADIO AND TELEVISION REPAIR
 Primary NAICS Code: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
 Secondary NAICS Code 2: 811211 CONSUMER ELECTRONICS REPAIR AND MAINTENANCE
 Affiliate Immediate Parent: ECHOSPHERE L.L.C.
 Affiliate Ultimate Parent: DISH NETWORK CORPORATION

Executive Information

Contact: CLYDE WALLS
 Contact's Title: MANAGER

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Business Information

Business Name: DISH NETWORK
 Primary Address: 13450 N HIGHWAY 183
 STE 227
 AUSTIN, TX 78750-3228
 County: WILLIAMSON
 Country: USA
 Business Phone: 888-509-3474
 Employees at 7
 Location (Year):
 Sales from Location \$2,296,000 (2013)
 (Year):

Business Description:

Primary SIC Code: 4841 CABLE AND
 OTHER PAY TELEVISION
 SERVICES
 Secondary SIC Code 7622 RADIO AND
 1: TELEVISION REPAIR
 Secondary SIC Code 5731 RADIO,
 2: TELEVISION, AND
 ELECTRONIC STORES
 Primary NAICS 517311 WIRED
 Code: TELECOMMUNICATIONS
 CARRIERS
 Affiliate Immediate ECHOSPHERE L.L.C.
 Parent:
 Affiliate Ultimate DISH NETWORK
 Parent: CORPORATION

Executive Information

Contact: THELMA WALLING

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 Database Last Updated: 04/29/2020
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 Current Date: 05/11/2020

Business Information

Business Name: DISH NETWORK
 Primary Address: 817 W NORTH LOOP
 BLVD
 AUSTIN, TX 78756-2214
 County: TRAVIS
 Country: USA
 Business Phone: 512-206-4085
 Year Established: 2010
 Employees at
 Location (Year): 4
 Sales from Location
 (Year): \$1,243,000 (2009)

Business Description:

Primary SIC Code: 4841 CABLE AND
 OTHER PAY TELEVISION
 SERVICES
 Secondary SIC Code 5731 RADIO,
 1: TELEVISION, AND
 ELECTRONIC STORES
 Primary NAICS 515210 CABLE AND
 Code: OTHER SUBSCRIPTION
 PROGRAMMING
 Secondary NAICS 517311 WIRED
 Code 2: TELECOMMUNICATIONS
 CARRIERS
 Affiliate Immediate ECHOSPHERE L.L.C.
 Parent:
 Affiliate Ultimate DISH NETWORK
 Parent: CORPORATION

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Business Information

Business Name: DISH NETWORK
 Primary Address: 401 CONGRESS AVE
 AUSTIN, TX 78701-4071
 County: TRAVIS
 Country: USA
 Business Phone: 512-549-2144
 Web Address: www.dish.com
 Year Established: 2012
 Employees at 8
 Location (Year):
 Sales from Location \$8,908,000 (2018)
 (Year):

Business Description:

Primary SIC Code: 4841 CABLE AND
 OTHER PAY TELEVISION
 SERVICES
 Secondary SIC Code 7622 RADIO AND
 1: TELEVISION REPAIR
 Primary NAICS 515210 CABLE AND
 Code: OTHER SUBSCRIPTION
 PROGRAMMING
 Secondary NAICS 811211 CONSUMER
 Code 2: ELECTRONICS REPAIR
 AND MAINTENANCE
 Legal Immediate ECHOSPHERE L.L.C.
 Parent:
 Legal Ultimate DISH NETWORK
 Parent: CORPORATION

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Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
Primary NAICS Code: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING

Business Information

Business Name: DISH A NETWORK
Primary Address: 7000 N MO PAC EXPY
 AUSTIN, TX 78731-3027
County: TRAVIS
Country: USA
Business Phone: 512-236-5082
Employees at Location (Year): 2
Sales from Location (Year): \$459,000 (2018)

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Update Frequency: MONTHLY
Current Date: 05/11/2020

Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
Secondary SIC Code 1: 5731 RADIO, TELEVISION, AND ELECTRONIC STORES
Primary NAICS Code: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
Affiliate Immediate Parent: ECHOSPHERE L.L.C.
Affiliate Ultimate Parent: DISH NETWORK CORPORATION

Business Information

Business Name: DISH1 NETWORK SALES
Primary Address: 6306 MENCHACA RD
AUSTIN, TX 78745-4929
County: TRAVIS
Country: USA
Business Phone: 512-524-3473
Employees at Location (Year): 1

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Update Frequency: MONTHLY
Current Date: 05/11/2020

Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
Secondary SIC Code 1: 7622 RADIO AND TELEVISION REPAIR
Primary NAICS Code: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
Secondary NAICS Code 2: 811211 CONSUMER ELECTRONICS REPAIR AND MAINTENANCE

Business Information

Business Name: DISH NETWORK
Primary Address: 107 E 5TH ST
AUSTIN, TX 78701-3601
County: TRAVIS
Country: USA
Business Phone: 512-318-2673
Web Address: www.dish.com
Employees at Location (Year): 6
Sales from Location (Year): \$6,681,000 (2017)

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Business Profile Record

Source Information

Information Current 04/24/2020
Through:
Database Last Updated: 04/29/2020
Update Frequency: MONTHLY
Current Date: 05/11/2020

Business Description:

Primary SIC Code: 4841 CABLE AND
OTHER PAY TELEVISION
SERVICES
Primary NAICS 517311 WIRED
Code: TELECOMMUNICATIONS
CARRIERS
Affiliate Immediate ECHOSPHERE L.L.C.
Parent:
Affiliate Ultimate DISH NETWORK
Parent: CORPORATION

Business Information

Business Name: DISHNETWORK
AUTHORIZED DEALER-
CABLE TV
Primary Address: 299 W 6TH ST
AUSTIN, TX 78701-3401
County: TRAVIS
Country: USA
Business Phone: 512-524-7584
Employees at 27
Location (Year):
Sales from Location \$8,856,000 (2010)
(Year):

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Exhibit 24

Business Profile Record

Source Information

Information Current Through: 04/24/2020
 Database Last Updated: 04/29/2020
 Update Frequency: MONTHLY
 Current Date: 05/11/2020

Business Information

Business Name: DISH NETWORK BY DISH SAT TV
 Primary Address: 1808 W WACO DR WACO, TX 76701-1042
 County: MCLENNAN
 Country: USA
 Business Phone: 254-304-7955
 Web Address: www.dish.com
 Year Established: 2011
 Employees at Location (Year): 5
 Sales from Location (Year): \$539,000 (2016)

Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
 Secondary SIC Code 1: 4215 COURIER SERVICES, EXCEPT BY AIR
 Secondary SIC Code 2: 7622 RADIO AND TELEVISION REPAIR
 Primary NAICS Code: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
 Secondary NAICS Code 2: 492110 COURIERS AND EXPRESS DELIVERY SERVICES
 Secondary NAICS Code 3: 811211 CONSUMER ELECTRONICS REPAIR AND MAINTENANCE
 Affiliate Immediate Parent: ECHOSPHERE L.L.C.
 Affiliate Ultimate Parent: DISH NETWORK CORPORATION

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Business Information

Business Name: DISH NETWORK
 Primary Address: 323 N INDUSTRIAL DR
 WACO, TX 76710-5904
 County: MCLENNAN
 Country: USA
 Business Phone: 254-776-5959
 Employees at 7
 Location (Year):
 Sales from Location \$2,296,000 (2012)
 (Year):

Business Description:

Primary SIC Code: 4841 CABLE AND
 OTHER PAY TELEVISION
 SERVICES
 Primary NAICS 517311 WIRED
 Code: TELECOMMUNICATIONS
 CARRIERS
 Affiliate Immediate ECHOSPHERE L.L.C.
 Parent:
 Affiliate Ultimate DISH NETWORK
 Parent: CORPORATION

Executive Information

Contact: BEATRICE L EDWARDS
 Contact's Title: OWNER

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Current Date: 05/11/2020

Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
Primary NAICS Code: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
Affiliate Immediate Parent: ECHOSPHERE L.L.C.
Affiliate Ultimate Parent: DISH NETWORK CORPORATION

Business Information

Business Name: DISH A NETWORK
Primary Address: 601 FRANKLIN AVE
WACO, TX 76701-2031
County: MCLENNAN
Country: USA
Business Phone: 254-296-9841
Employees at Location (Year): 5
Sales from Location (Year): \$184,000 (2008)

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Business Information

Business Name: DISH NETWORK
 Primary Address: 2701 REUTER AVE
 WACO, TX 76708-2430
 County: MCLENNAN
 Country: USA
 Business Phone: 254-752-1201
 Year Established: 2006
 Employees at Location (Year): 10
 Sales from Location (Year): \$646,000 (2012)

Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
 Primary NAICS Code: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
 Secondary NAICS Code: 517311 WIRED TELECOMMUNICATIONS CARRIERS
 Affiliate Immediate Parent: ECHOSPHERE L.L.C.
 Affiliate Ultimate Parent: DISH NETWORK CORPORATION

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Business Information

Business Name: DISH1 NETWORK SALES
 Primary Address: 4304 BELLMEAD DR
 WACO, TX 76705-2674
 County: MCLENNAN
 Country: USA
 Business Phone: 254-523-0307
 Year Established: 2008
 Employees at Location (Year): 10
 Sales from Location (Year): \$646,000 (2013)

Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
 Secondary SIC Code 1: 5731 RADIO, TELEVISION, AND ELECTRONIC STORES
 Secondary SIC Code 2: 7622 RADIO AND TELEVISION REPAIR
 Primary NAICS Code: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
 Secondary NAICS Code 2: 517311 WIRED TELECOMMUNICATIONS CARRIERS
 Affiliate Immediate Parent: ECHOSPHERE L.L.C.
 Affiliate Ultimate Parent: DISH NETWORK CORPORATION

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Business Description:

Primary SIC Code: 4841 CABLE AND
 OTHER PAY TELEVISION
 SERVICES
 Secondary SIC Code 7622 RADIO AND
 1: TELEVISION REPAIR
 Primary NAICS 515210 CABLE AND
 Code: OTHER SUBSCRIPTION
 PROGRAMMING
 Secondary NAICS 811211 CONSUMER
 Code 2: ELECTRONICS REPAIR
 AND MAINTENANCE

Business Information

Business Name: DISH NETWORK
 Primary Address: 1808 W WACO DR
 WACO, TX 76701-1042
 County: MCLENNAN
 Country: USA
 Business Phone: 254-304-7955
 Web Address: www.dish.com
 Year Established: 2011
 Employees at 5
 Location (Year):
 Sales from Location \$539,000 (2016)
 (Year):

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Business Information

Business Name: DISH1 NETWORK SALES
Primary Address: 1330 E WACO DR
WACO, TX 76704-2369
County: MCLENNAN
Country: USA
Business Phone: 254-523-0309
Year Established: 2008
Employees at Location (Year): 2
Sales from Location (Year): \$646,000 (2008)

Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
Secondary SIC Code 1: 5731 RADIO, TELEVISION, AND ELECTRONIC STORES
Secondary SIC Code 2: 7261 FUNERAL SERVICE AND CREMATORIES
Primary NAICS Code: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
Secondary NAICS Code 2: 517311 WIRED TELECOMMUNICATIONS CARRIERS
Affiliate Immediate Parent: ECHOSPHERE L.L.C.
Affiliate Ultimate Parent: DISH NETWORK CORPORATION

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Business Description:

Primary SIC Code: 4841 CABLE AND OTHER PAY TELEVISION SERVICES
Secondary SIC Code 1: 5731 RADIO, TELEVISION, AND ELECTRONIC STORES
Primary NAICS Code: 515210 CABLE AND OTHER SUBSCRIPTION PROGRAMMING
Secondary NAICS Code 2: 517311 WIRED TELECOMMUNICATIONS CARRIERS
Affiliate Immediate Parent: ECHOSPHERE L.L.C.
Affiliate Ultimate Parent: DISH NETWORK CORPORATION

Business Information

Business Name: DISH1 NETWORK SALES
Primary Address: 720 W SPNG VLY
WACO, TX 76701
County: MCLENNAN
Country: USA
Business Phone: 254-523-0313
Employees at Location (Year): 1
Sales from Location (Year): \$646,000 (2012)

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Business Description:

Primary SIC Code: 5731 RADIO, TELEVISION, AND ELECTRONIC STORES
Secondary SIC Code 1: 4841 CABLE AND OTHER PAY TELEVISION SERVICES

Business Information

Business Name: DISH NETWORK NEW SALES
Primary Address: 600 AUSTIN AVE
WACO, TX 76701-2018
County: MCLENNAN
Country: USA
Business Phone: 254-523-4656
Employees at Location (Year): 3
Sales from Location (Year): \$688,000 (2018)

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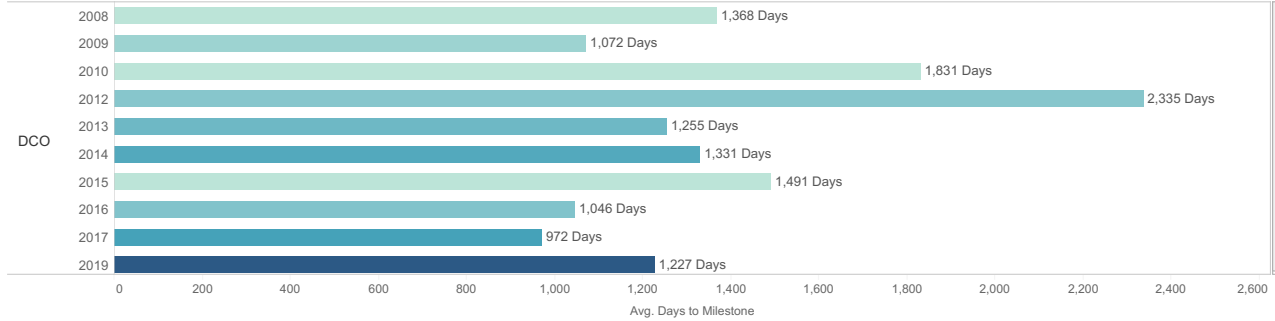
Select a Milestone group and subcategory below to see how quickly cases reach the selected Milestones.

Elapsed time to:
Trials

Milestone Subcategories

- ☒ Bench Trial
☒ Jury Trial

Time to Trials



Choose Courts
Colorado - DCO

Year of Document Filing
All

ANDA Cases
☒ ANDA Cases
☒ Non-ANDA Cases

Patent Technology Centers
All