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**Before the  
Federal Communications Commission  
Washington, DC 20554**

In the Matter of )  
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Framework for Broadband Industry Service ) GN Docket No. 10-127  
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To: The Commission

**COMMENTS OF ALCATEL-LUCENT**

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July 15, 2010

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## TABLE OF CONTENTS

SUMMARY.....	ii
I. INTRODUCTION.....	1
II. SEPARATING BROADBAND INTERNET CONNECTIVITY SERVICE FROM BROADBAND INTERNET SERVICE WILL PRECLUDE DEVELOPMENT IN THE BROADBAND MARKET.....	2
III. BROADBAND DEPLOYMENT AND INVESTMENT HAS INCREASED SINCE THE FCC CLASSIFIED BROADBAND INTERNET SERVICE AS AN INFORMATION SERVICE.....	7
IV. REGULATORY DECISIONS SIGNIFICANTLY IMPACT CAPITAL INVESTMENT IN BROADBAND INFRASTRUCTURE.....	9
V. THE COMMISSION SHOULD WORK WITH CONGRESS TO ESTABLISH CLEAR, STABLE LEGAL AUTHORITY.....	10
VI. THE COMMISSION NEEDS TO BUILD AN ACCURATE, FACTUAL RECORD.....	10
VII. THE COMMISSION’S THIRD WAY INVITES SIGNIFICANT REGULATORY AND LITIGATION RISK.....	12
VII. CONCLUSION.....	13

## SUMMARY

Alcatel-Lucent urges the Commission to work directly with the Congress and industry stakeholders to find a possible legislative solution to the legal issues presented in the DC Circuit's *Comcast* decision. Such a solution would provide the stability and clarity that is necessary to create a stable investment environment for Alcatel-Lucent and others in the broadband ecosystem.

Alcatel-Lucent is concerned that the Commission's efforts in this proceeding to expeditiously resolve the legal issues presented by the *Comcast* decision will create more regulatory uncertainty with inevitable litigation and court action. In the event the Commission moves forward with this proceeding, it should first build a strong record to understand today's broadband market and ultimately maintain the lightly regulated environment created through the broadband classification proceedings to which many service providers relied in making their investment decisions.

Since the 2005 time period, which coincides with a stable interconnection and broadband services regulatory environment, broadband availability, adoption and investment have increased significantly in the United States. As a broadband vendor, Alcatel-Lucent is concerned that any wholesale change in the regulatory structure will put downward pressure on this investment.

In its comments, Alcatel-Lucent focuses primarily on the significant progress application developers and service providers have made in working together to improve the broadband services provided to consumers and businesses. This Applications Enablement movement could be harmed if the Commission creates a regulatory distinction between broadband transmission from the broadband services bundle.

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**COMMENTS OF ALCATEL-LUCENT**

**I. INTRODUCTION.**

Alcatel-Lucent (“ALU”) respectfully submits the following comments in response to the Federal Communications Commission’s (“Commission”) Notice of Inquiry (“NOI”)<sup>1</sup> concerning its regulatory framework for broadband Internet service. ALU is concerned that the Commission is moving too rapidly and too aggressively to address the legal authority issues surrounding broadband services in the wake of the D.C. Circuit’s decision in *Comcast Corp. v. FCC*, 600 F.3d 642 (D.C. Cir. 2010) (*Comcast*) absent proper consideration of the technological and marketplace realities in the broadband sector. ALU instead urges the Commission continue its dialogue with stakeholders and Congress to find a legislative solution and avoid a long cycle of rulemakings, adverse court proceedings, and regulatory uncertainty that will chill investment, innovation, and deployment.

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<sup>1</sup> *Framework for Broadband Internet Service*, GN Docket No. 10-127, Notice of Inquiry (rel Jun.17, 2010) (“NOI”).

## **II. SEPARATING BROADBAND INTERNET CONNECTIVITY SERVICE FROM BROADBAND INTERNET SERVICE WILL PRECLUDE DEVELOPMENT IN THE BROADBAND MARKET.**

The Commission's efforts to establish a regulatory separation of "broadband Internet connectivity service" from the broadband Internet service offering that facilities-based providers make available to end users in the retail market<sup>2</sup> will disrupt and impair development of the next generation of broadband access and Internet applications. Such a regulatory separation, which may rely on the separate transmission component in the NECA tariff<sup>3</sup> or IETF Layers<sup>4</sup> as proxies, fails to recognize how the broadband marketplace continues to evolve with transmission and enhanced capabilities even more integrated and intertwined today than they were back in 1998 when the Commission first took up the classification of Internet service as an Information Service. Indeed, already today application developers are starting to access an array of capabilities provided by Broadband ISPs to produce differentiation and user utility. In short, the Commission's attempt to rely on a "commonsense definition of broadband Internet service"<sup>5</sup>

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<sup>2</sup> *NOI*, Ftnt. 1.

<sup>3</sup> *NOI*, ¶ 21, ftnt. 53-54. The *NOI* explains that a number of carriers, particularly rate of return carriers offering service via the NECA tariff, offer broadband transmission on a stand-alone Title II common carrier basis. However, the *NOI* fails to fully explain why some carriers would choose to continue to offer DSL in this manner while many larger carriers choose the Information Services offering. Interested parties should appreciate that not all wireline carriers are similarly situated and the motivation for the choice is not without ramifications. *See, ex parte* presentation of National Exchange Carrier Association, et al, CC Docket 02-33, WC Docket 04-36 (Jul. 22, 2005) ("Rate of Return carriers face financial and competitive circumstances that differ markedly from those faced by larger companies..." and "...small telephone companies currently offer Digital Subscriber Line (DSL) transmission under the NECA's tariff and participate in associated revenue pools"). These revenue pools mitigate risk and provide for stable monthly cash flows for participating carriers.

<sup>4</sup> *NOI*, ¶ 60.

<sup>5</sup> *NOI*, ¶ 107.

may be fashioned as a clear-cut line drawing exercise, but it is anything but, and could cause serious harm to new developments in the broadband marketplace.

Alcatel-Lucent is deeply concerned that the proposal to separate and differentiate broadband Internet connectivity service from the broadband Internet service offering will chill or stop the utility of open application programming interfaces (“APIs”) and the attendant “Application Enablement” revolution. In our Comments and Reply Comments in the *Preserving the Open Internet* proceeding,<sup>6</sup> ALU explained how open APIs and the Applications Enablement initiative are transforming broadband service from one of simply matching transmission with applications to one in which applications work specifically with certain network provider core service capabilities to deliver a wide range of consumer benefits – eliminating any distinction between “transmission” and “processing.”<sup>7</sup> As described below, open APIs and Application Enablement offer tremendous opportunities for Internet innovation, but the Third Way proposal will distort technology choices and engineering decisions as parties grapple with consequences of Title II regulation.

By way of background, through an open API structure, such as the recently announced Wholesale Application Community (WAC) organized by the GSM Association,<sup>8</sup> application developers will have an objective, industry-created means to select among numerous network and enhanced capabilities of broadband ISPs to deliver increased value to end users. Application

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<sup>6</sup> *Preserving the Open Internet; Broadband Industry Practices*, GN Docket No. 09-191, WC Docket No. 07-52, Notice of Proposed Rulemaking, 24 FCC Rcd 13064 (2009) (“Open Internet NPRM”)

<sup>7</sup> *Open Internet NPRM*, Comments of Alcatel-Lucent (filed Jan 14, 2010); Reply Comments of Alcatel-Lucent (filed Apr. 26, 2010).

<sup>8</sup> <http://www.gsmworld.com/wac/> (visited Jul. 15, 2010)

Enablement provides enormous value to users by allowing them to customize their broadband Internet access service (e.g., by applying enhanced QoS treatment, or user location/presence context information to a customer-specified particular end point or application) to enhance their experience with a particular application that is sensitive to packet loss or delay, or that should be tailored to specific user context or location. These capabilities are built into the network to automatically configure an application for the appropriate platform (wired access, mobile, etc.) and to provide enhancements, such as quality, context-awareness, network state awareness, or even security, on demand in order to enhance the user experience.

For example, with Applications Enablement a user can enable an Application/Content Provider (“ACP”) video or voice provider to call out certain enhanced network capabilities from the broadband ISP to provide the quality and reliability required for video performance and demanded by consumers. For an ACP voice or video communications provider to provide a high quality experience to the end user, prioritization of the packets is required in order to avoid delay of packet delivery and/or jitter. In the absence of this treatment quality degradation occurs during congestion at points in the network as packets are dropped because they do not arrive at the receiver in time to be decoded and played out. With the advent of open APIs into the network, these problems can now be overcome as the session can request the necessary QoS treatment to deliver the quality service the end user desires. In practice, this would typically take the form of remarking the priority bits in the IP header (layer 3 in the OSI model), but could also include the addition of sequence numbers by the network provider (at layer 4 or 5 in the OSI model) to facilitate re-transmission of dropped packets.

Likewise, if we consider business services, such as cloud computing services that utilize broadband access connections between enterprises and data centers in the provider network or

beyond, “web acceleration” functionality such as TCP connection aggregation (layer 4 modification) or http header compression (layer 5) might be offered in addition to prioritization to expedite session set-up and improve the service experience, e.g. for a virtual desktop service or Enterprise Resource Planning (ERP) application. Such a service would be a fundamental part of a service offering for small and medium businesses or large enterprises.

Furthermore, if we look at the question of security or service integrity of the broadband service, in order to provide universal broadband service security, the network should offer network-based intrusion detection and prevention (IDS and IPS) services to prevent Denial of Service and Botnet attacks by unwitting users’ devices. This capability requires the inspection and modification of layer 7 information (e.g. a file attachment). Such a service is a fundamental part of providing broadband access services to those users who cannot maintain such security software on the end device.

The public interest benefits of such capabilities are numerous. First, the ACP or business service provider can ensure a level of quality and reliability that meets the expectations and high standards of consumers and businesses. Second, by delivering a high quality, secure, and reliable experience to the ACP providers, the network provider ensures their service offerings are competitive with other managed services and competing platforms (e.g. cable television or special access), and provide diversity and price competition with the incumbent providers. Third, Application Enablement challenges the common understanding that ensuring QoS and reliability ultimately requires increased broadband access bandwidth. In a bandwidth

constrained world,<sup>9</sup> the Commission, broadband ISPs and application developers need to explore all means of providing increased application performance and end user utility to the end user without automatically requiring more bandwidth.

The Commission's motivation in identifying a separate transmission service is to establish legal and regulatory oversight in the broadband space, but the consequences of such a mandate would be far-reaching. The paramount concern here is consumer satisfaction, and the Third Way proposal raises significant concerns. As the *Wireline Broadband Order* recognized, consumers and businesses purchase an integrated Internet service offering,<sup>10</sup> not separate or stand alone transmission and Internet access capabilities as envisioned by the regulatory separation in the NOI. In such an environment, would broadband ISPs be precluded or dissuaded from investing in new transmission capabilities that are subjected to a regulated broadband Internet connectivity service? How would the Commission-envisioned dividing line between broadband Internet connectivity service and broadband Internet service affect network architecture and design? Would applications developers be relegated to reliance on increased bandwidth to ensure QoS and reliability for customers, a remedy that is inherently flawed as demand for bandwidth continues to outstrip supply, with all applications being impaired, independent of end-user preference, when congestion occurs? Due to the interdependency developing between application and transmission, will the regulatory mandate inadvertently include many of the backbone, CDN and other services that the Commission is seeking to

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<sup>9</sup> Vast amounts of data has been presented to the Commission on impending data growth and bandwidth challenges, including Alcatel-Lucent's traffic management study. *Open Internet NPRM*, Comments of Alcatel-Lucent & Attachment, "Analysis of the impact of traffic growth on the evolution of Internet access" ("ALU White Paper") (filed Jan. 14, 2010).

<sup>10</sup> *NOI*, ¶¶ 55-56.

exclude from Title II regulation? The Commission needs to understand these market and technical developments and appreciate the consequences of its policy decisions before moving forward with its proposed broadband reclassification.

### **III. BROADBAND DEPLOYMENT AND INVESTMENT HAS INCREASED SINCE THE FCC CLASSIFIED BROADBAND INTERNET SERVICE AS AN INFORMATION SERVICE.**

Commission and industry data show that broadband investment, deployment and adoption have increased significantly since the classification decisions establishing broadband Internet service as a Title I offering. The Commission's policies should seek to encourage this expansion, but the proposal to upset the regulatory environment threatens to undermine continued investment.

Data on the record demonstrates positive trends in the U.S. broadband market since the classification rulings. As discussed in Paragraph 94 of the NOI, broadband adoption in the U.S. has expanded from 12% of homes at the time of the 2002 Cable Modem Order to 64% in 2009. Further, in its *Preserving the Open Internet Proceeding*, the Commission cited 2005 as the inflection point for a rapid rise in broadband expansion in the U.S.,<sup>11</sup> the same year that *Brand X*<sup>12</sup> and the *Wireline Broadband Order* provided stability in broadband services regulation and the year after the *TRRO*<sup>13</sup> stabilized the Commission's network unbundling policies.

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<sup>11</sup> *Open Internet NPRM*, ¶48.

<sup>12</sup> *Nat'l Cable & Telecoms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967 (2005)(*Brand X*).

<sup>13</sup> *Unbundled Access to Network Elements; Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, WC Docket No. 04-313, CC Docket No. 01-338, Order on Remand, 20 FCC Rcd 2533 (2005) (*Triennial Review Remand Order*), *aff'd*, *Covad Commc'ns Co. v. FCC*, 450 F.3d 528 (D.C. Cir.2006).

Capital expenditures in this market demonstrated several positive trends from 2005 through 2008, with some recessing in 2009 due primarily to the most significant economic downturn since the Great Depression. In the CITI report submitted to the Commission’s Broadband Task Force, the authors illustrated in Table 5 the positive capex trends in RBOC wired broadband, both in real terms and as a percentage of all investment.

**TABLE 5: RBOC WIRED BROADBAND CAPEX (\$ BILLION)**

<b>Network</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009E</b>	<b>2010E</b>	<b>2011E</b>
<b>Legacy</b>	16.3	15.2	13.0	10.5	10.5	10.0
<b>Broadband</b>	7.2	10.7	11.9	11.5	12.5	14.0
<b>Total</b>	23.5	25.9	24.9	22.0	23.0	24.0
<i>% broadband</i>	30.6%	41.3%	47.8%	52.3%	54.3%	58.3%

Adapted from: Skyline Marketing Group, Capex Report: 2008 Annual Report, at Exhibit 14 and text at 18, 20, 23.

This data demonstrates positive investment trends in the four year period from the stabilization of the Commission’s network unbundling and broadband policies in the 2004-05 time period, through 2008. The reduction from 2008 to 2009 is attributable to the cash pressure on service providers due to the severe macro-economic situation, as well as the winding down of several major infrastructure upgrades. Indeed, as we emerge from the economic downturn, renewed expenditure in the market is being clearly observed, and this trend risks being reversed by the Commissions’ Third Way proposal, should it be pursued and ratified.

Alcatel-Lucent concedes that data correlation is not the same as causation, yet it stresses that the Commission must appreciate these facts and the positive developments in the U.S. broadband market to ensure any changes to the regulatory environment does not impede these positive trends in investment, deployment and adoption trends.

#### **IV. REGULATORY DECISIONS SIGNIFICANTLY IMPACT CAPITAL INVESTMENT IN BROADBAND INFRASTRUCTURE.**

The regulatory environment plays a significant role in the variability of investment levels. Certainly, to a limited degree, capital investment rests within a range of service provider revenue since all networks require continuous investment for maintenance and operations. However, investment decisions are not a mathematical certainty and are subject to numerous competitive inputs.

Service provider revenue may be used for a variety of purposes at varying degrees depending on competitive scenarios, shareholder pressure and/or management priorities. For example, service provider revenue may be dedicated to satisfying fixed and operational costs, build cash reserves, sustain marketing campaigns, ensure pension investments will meet future demands, pay dividends, satisfy debt, make irregular investments (outside the core competency of the service provider) and/or capital investment in network maintenance and expansion. Management must balance all of these priorities and allocate resources in a manner that is in the best interest of shareholders.

In such a competitive environment for resources, service provider management may redirect resources away from capital investments in network improvement and expansion if the Commission's rules have an unacceptable degree of uncertainty or decrease the likelihood that an acceptable return will be realized. Essentially it is this fiduciary duty that will curtail capital investments if the Commission's policy decisions concerning reclassification are unduly burdensome, create instability, and limit flexibility to make market decisions.

Alcatel-Lucent is concerned this very proceeding could create an unacceptable degree of regulatory uncertainty and rules that decrease the likelihood of an acceptable return on investment for service providers. The Commission's possible application of over forty

provisions from Title II of the Communications Act and the inevitable legal appeals that will result may create an adverse investment environment in the broadband market at the very time the Commission's National Broadband Plan seeks to expand availability and adoption. Unfortunately, this regulatory environment could parallel the eight years of rulemakings and litigation from *Local Competition Order* to the *TRRO* that was required to clearly establish the Commission's network unbundling regime, which decreased and delayed investment in broadband networks as industry waited for a settled regulatory environment.

**V. THE COMMISSION SHOULD WORK WITH CONGRESS TO ESTABLISH CLEAR, STABLE LEGAL AUTHORITY.**

ALU commends the Commission for its outreach to stakeholders to find a legislative solution to establish an appropriate legal foundation for broadband regulatory regime.<sup>14</sup> At the same time, the leaders of the Senate and House Commerce Committees, and their respective staffs, have convened several industry working groups seeking a remedy that may involve legislation. ALU is working with its service provider customers, trade associations and other vendors and is encouraged that consensus can be achieved. An industry led effort, with Commission oversight and clear legal support from Congress, is in the best interest of the broadband market and consumers.

**VI. THE COMMISSION NEEDS TO BUILD AN ACCURATE, FACTUAL RECORD.**

In the event a legislative solution is not met and the Commission moves forward with this proceeding, an accurate factual record need to be established. In the NOI, the Commission

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<sup>14</sup> *NOI*, ¶ 9, *NOI*, ftnt. 17.

acknowledged that the record is dated.<sup>15</sup> The NOI discusses how the Commission arrived at the Information Services classification based on the 1998 Stevens Report, the 2002 *Cable Modem Order* (based on a factual record compiled largely in 2000),<sup>16</sup> the *Brand X* decision (issued in 2005 by the Supreme Court but based on many factual arguments raised in earlier district and appellate court decisions from 2000 and 2003), and the Wireline Broadband Order (finalized in 2005 but based on a record compiled largely in 2002). The broadband market of 2010 is not the same as in 1998, 2002, or even 2005.

Now, solely to establish solid legal ground for its network management rules after the *Comcast* decision, the Commission seeks to fundamentally change the most critical regulatory decisions concerning broadband service based on a brief comment and reply comment period with a well-known goal of finalizing its decision “while the leaves are still on the trees.” While administratively convenient, this rapid decision-making raises the question of whether there is a rush to judgment, particularly in light of key new initiatives as the WAC group work on Open APIs, and the manifest increase in number operators supporting related Developer Community Programs. Moreover, given the inevitable court challenges to the Commission’s order in this proceeding, ALU is concerned that the Commission is increasing the likelihood it will be unable to demonstrate the “changed circumstances” required under current administrative law,<sup>17</sup> and the decision will most likely be vacated or remanded by the courts.

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<sup>15</sup> “...the current legal classification of broadband Internet service is based on a record that was gathered a decade ago.” *NOI*, ¶ 1.

<sup>16</sup> *NOI*, ¶ 15.

<sup>17</sup> *FCC v. Fox Television Stations, Inc.*, 129 S. Ct. 1800, 1811 (2009)

## VII. THE COMMISSION'S THIRD WAY INVITES SIGNIFICANT REGULATORY AND LITIGATION RISK.

In the event the Commission decides to move forward in this proceeding, it should focus primarily on maintaining the current Title I Information Service classification for broadband services. As the Commission knows, *Comcast* did not strike down the ability of the Commission to employ ancillary authority in Title I or its decision to classify cable modem service as an Information Service, rather the court only struck down the finite set of arguments that attempted to justify the network management principles. In attempting to reestablish its legal authority in this area, seeking justification under Title I may provide a remedy to the narrow legal issue without causing the widespread disruption expected by a Title II or Third Way option.

Contrary to claims that have been made on its behalf, the so-called “third way” is subject to *more*, not *less*, legal risk than the Commission’s current framework for regulating broadband Internet service. This is true both because any decision identifying and reclassifying a distinct “transmission” component would be legally unsustainable and, even after *Comcast*, the Commission retains substantial legal authority to pursue core policy objectives.

An order implementing the “third way” most likely could not withstand judicial review. As the Supreme Court explained last year, an agency reversing course may be required to supply “a more detailed justification than what would suffice for a new policy created on a blank slate” in cases where “its new policy rests upon factual findings that contradict those which underlay its prior policy” or “its prior policy has engendered serious reliance interests that must be taken into account...”<sup>18</sup> In the Court’s view, “[i]t would be arbitrary or capricious to ignore such

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<sup>18</sup> *Id.*

matters.”<sup>19</sup> Of course, both of these circumstances apply here. First, any change in course here would be premised on a changed factual view of broadband Internet service (*e.g.*, as two separate offerings provided together rather than as one integrated offering). As previously illustrated, ALU’s experience as a broadband infrastructure vendor is just the opposite in that the processing and transmission components of broadband Internet access are becoming more intertwined, and consumers increasingly view broadband Internet service as a single offering, providing access to and interaction with the Internet.

Second, any reversal would contradict the expectations set by the Commission’s previous orders on this subject, which have formed the basis for providers’ investment decisions for nearly a decade. For example, in 2005’s *Wireline Broadband Order*, the Commission expressed its hope that the Order would “allow facilities-based wireline broadband Internet access service providers to respond to changing marketplace demands effectively and efficiently, spurring them to invest in and deploy innovative broadband capabilities that can benefit all Americans....”<sup>20</sup> Providers did so, investing billions of dollars in advanced DSL, fiber-optic and wireless networks. Having successfully invited carriers to rely on its existing approach to regulation and invest accordingly, the Commission will be unable to make the required showing necessary to uphold such a policy reversal.

So, too, there is no guarantee that a court would sustain the sweeping forbearance on which the “third way” is premised. While it is true that the Commission has never been reversed on a forbearance grant, it is also true that the Commission has never attempted to forbear so

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<sup>19</sup> *Id.*

<sup>20</sup> *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, 20 FCC Rcd 14853, 14855 ¶ 1 (2005) (“*Wireline Broadband Order*”).

comprehensively from Title II's requirements under Section 10. Failure to forbear or to sustain a forbearance decision subsequent to a Title II classification would dramatically increase the regulatory burden placed on broadband service providers, regardless of the policy intent of the Commission.

## **VII. CONCLUSION**

Alcatel-Lucent appreciates the opportunity to participate in this proceeding. As illustrated in these Comments, ALU is concerned that the potential application of legacy telecommunications services regulation on broadband Internet services could have significant consequences, including harm to the cooperation among service providers and applications developers to provide customer value and utility. ALU urges the Commission to continue to work with the Congress to address the legal issues presented by Comcast and to refrain from dramatically increasing the regulatory burden on broadband Internet services.

Respectfully submitted,

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/s/

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