Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of

Comprehensive Review of Licensing and Operating Rules for Satellite Services

IB Docket No. 12-267

REPLY COMMENTS OF INTELSAT LICENSE LLC

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REPLY COMMENTS OF INTELSAT LICENSE LLC

I. INTRODUCTION AND SUMMARY

Intelsat License LLC (“Intelsat”) hereby replies to comments submitted in the above-captioned Notice of Proposed Rulemaking (“Notice”).1 As discussed herein and in its opening comments,2 Intelsat supports the Federal Communications Commission’s (“FCC” or “Commission”) commitment to streamlining Part 25 rules to reduce “time, effort, and costs”3 for both licensees and the FCC staff.

The Commission received comments from nineteen parties in this proceeding, the vast majority of whom offered proposals that would promote even greater efficiency and flexibility in the implementation of Part 25 rules. Intelsat joins many of these commenters and encourages the Commission to adopt reforms that improve the utility of the rules for licensees, remove

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3 See Notice, ¶ 3; Intelsat Comments, 8.
unnecessary information requirements, and incorporate best regulatory practices developed and successfully implemented by other regulators abroad. Intelsat also urges the Commission to maintain the protections afforded satellite earth stations, and to continue to enforce critical review procedures for non-U.S.-licensed space stations. FCC action now to eliminate unnecessary paperwork\(^4\) and promote greater flexibility will serve the public interest by allowing U.S. licensees to operate efficiently and meet consumer needs, while continuing to provide the FCC and interested parties sufficient information to preserve competition.

II. **DISCUSSION**

A. **The Commission Should Implement the Satellite Industry Association’s Proposals**

Intelsat supports the comments submitted by the Satellite Industry Association ("SIA").\(^5\) A member of SIA, Intelsat joined the SIA consensus comments except where specifically noted. SIA’s comprehensive and thoughtful comments offer technical proposals and specific rule amendments that would make licensing procedures more efficient and facilitate satellite industry innovation.

In particular, Intelsat applauds SIA’s proposals to streamline the Commission’s licensing rules, especially simplifying the filing burdens now contained in Section 25.114 of the rules to remove unnecessary filing requirements when information can be gathered from other sources or when the Commission does not need such information to find grant of an application to be in the


Further, Intelsat supports SIA’s proposed revisions to the Section 25.118 requirements for “modifications not requiring prior authorization,” which would provide licensees the flexibility to better serve their customers without sacrificing the FCC’s oversight of satellite operators. As a final example, Intelsat joins SIA’s opposition to the creation of a need-based demonstration in proposed Section 25.138(b) for power flux density (PFD) levels in excess of those specified in Section 25.138(a) because of the inherent ambiguity and subjectivity of a PFD “necessity” demonstration. SIA’s overall comments reflect a comprehensive strategy to simplify and to enhance the Part 25 rules, and Intelsat encourages the Commission to implement SIA’s proposals.

B. The FCC Should Reduce Burdensome Information Requirements that Conflict with Established Rules and Policies

In its comments, The Boeing Company (“Boeing”) opposes the International Bureau’s (“Bureau”) implementation of the Critical Design Review (“CDR”) milestone rule. Boeing challenges the growth of excessive information demands for CDR compliance. The CDR milestone codified at Section 25.164(a)(2) requires geostationary space station licensees within two years after issuance to:

See, e.g., id. at 24, 26. SIA argued in its comments that there is no reason for the FCC to require applicants to justify their selected orbital location pursuant to Section 25.114(c)(5).

Id. at 34.

Id. at 45-46.


Id.
Complete the critical design review of the licensed satellite system.\textsuperscript{11}

In the Order adopting this rule, the Commission explained:

Evidence of compliance with this milestone \textit{may} include (1) evidence of a large payment of money, required by most construction contracts at the time of the spacecraft CDR; (2) affidavits from independent manufacturers; and (3) evidence that the licensee has ordered all the long lead items needed to begin physical construction of the spacecraft.\textsuperscript{12}

Boeing details how, over time, the International Bureau has transformed these simple Commission-prescribed options for demonstrating CDR compliance into a \textit{de facto} requirement to disclose the entire spacecraft CDR.\textsuperscript{13} Further, SIA notes that the Bureau’s CDR compliance review often incorporates post-CDR activities, events and expenditures.\textsuperscript{14} ORBCOMM Inc. agrees that the volume of evidence now required for CDR compliance reveals the gulf between the CDR rule as adopted and the current practice of the International Bureau.\textsuperscript{15}

Intelsat supports the diverse comments correctly highlighting that the International Bureau’s exhaustive CDR evidentiary requirements contradict the original intent of the rule.

When the Commission adopted the requirements, it explained that milestones were intended “to ensure that licensees provide service to the public in a timely manner, to prevent warehousing of scarce orbit and spectrum resources.”\textsuperscript{16} Yet, ORBCOMM observed that it “has experienced

\begin{itemize}
\item \textsuperscript{11} 47 C.F.R. § 25.164(a)(2) (2011).
\item \textsuperscript{12} \textit{Amendment of the Commission’s Space Station Licensing Rules and Policies}, First Report and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 10760, 10833 (2003) (\“\textit{2003 Space Station Rules Amendment}\”\) (emphasis added).
\item \textsuperscript{13} \textit{Boeing Comments}, 4-6.
\item \textsuperscript{14} \textit{SIA Comments}, 14.
\item \textsuperscript{15} \textit{See} Comments of ORBCOMM Inc., \textit{Comprehensive Review of Licensing and Operating Rules for Satellite Services}, IB Docket No. 12-267, 12 (filed Jan. 14, 2013) (\“\textit{ORBCOMM Comments}\”\) (supporting the adoption of milestone certification procedures).
\item \textsuperscript{16} \textit{2003 Space Station Rules Amendment}, 18 FCC Rcd at 10827 (2003).
\end{itemize}
significant delays and expended significant time and resources in filing and supplementing milestone compliance demonstrations.”17 As SIA explained, the protracted milestone review process actually perpetuates uncertainty for licensees awaiting Commission approval.18 So, instead of discouraging warehousing and promoting the goal of good spectrum management, the CDR milestone rule has become an albatross to efficiency—necessitating time-consuming review by Commission staff and impeding licensee progress.

Moreover, for applicants seeking a reduction of the bond requirement,19 this delay carries very real costs. The longer it takes the FCC to evaluate the milestone compliance materials, the longer an applicant must expend the costs associated with the higher bond amount. The FCC should not be imposing information production requirements absent from the rules that increase administrative costs for space station applicants.

The Notice sought comment about whether to provide greater specificity in the rules concerning evidence appropriate to satisfy compliance with the CDR milestone rule.20 But such specificity already exists—Section 25.164(a)(2) is clear. Instead of shifting this Part 25 streamlining rulemaking to proliferate paperwork and provide after-the-fact justification for non-rule-based information requests, the Commission should, at a minimum, simply accept manufacturer affidavits, as the rule envisions and as the agency used to do. Intelsat further

17 ORBCOMM Comments, 11-12.
18 SIA Comments, 15.
20 Notice, ¶ 30.
supports FCC implementation of SIA’s proposal that the Commission combine “the CDR and construction-commencement milestones,” or even eliminate “the CDR milestone altogether.”  

More broadly, implementation of the CDR milestone is just one illustration of a trend toward seemingly limitless information requirements for applicants and licensees that lack the force of rule behind them. Intelsat receives frequent requests from Commission staff for information that the rules do not expressly require applicants or licensees to provide. Although a lone request may seem innocuous, persistent requests create de facto disclosure obligations and result in delay and extra costs. Such informal information requests are directly contrary to the spirit of this rulemaking proceeding, which is designed to reduce burdens on applicants, licensees and the Commission, and should be discontinued.

C. The Commission Should Adopt a More Flexible Fleet Management Rule

Intelsat’s comments encouraged “the Commission to broaden the utility of the fleet management rule” by authorizing relocation without prior agency approval to a nearby nominal orbit location, so long as operations would conform to existing coordination agreements. EchoStar Corporation (“EchoStar”) mirrored Intelsat’s proposal, asking the Commission to

21 SIA Comments, 15. To the extent that the Commission is concerned about entities submitting less than accurate certifications that suggest that construction is farther along than perhaps it is, this problem likely will reveal itself in a request for extension of the final milestone – to launch and operate. It is then that the Commission can investigate any issues arising about the accuracy of previous milestone certifications.

22 Although Section 0.51 allows the International Bureau to “develop, recommend, and administer policies, rules, standards, and procedures,” the Bureau’s interpretations cannot contravene established FCC rules and policies.

23 Notice, ¶ 3.


25 Intelsat Comments, 8.
confirm that “a satellite capable of operating in the licensed frequencies and within authorized interference parameters can be moved to the reference slot under the rule, even if the satellite has technical differences from the originally licensed satellite for that slot.” EchoStar correctly explained that although the fleet management rule was intended to facilitate “interference-neutral” moves, because of the current language—and the FCC staff’s narrow construction—satellite operators rarely take advantage of the fleet management rule.

EchoStar’s comments reinforce Intelsat’s appeal to add satellite positioning flexibility to the rule. Each proposal would increase operators’ access to fleet management as a means to quickly modify operations and more effectively serve the public – thereby serving the intended purpose of the fleet management option. Accordingly, the Commission should broaden the utility of the fleet management rule by adopting Intelsat and EchoStar’s proposals.

D. The Agency Should Not Require ATIS Identification for all Satellite Uplinks Pending Future Development of ATIS Technology

In the Notice, the Commission asked whether Automatic Transmitter Identification System (“ATIS”) technology should be required for all types of satellite uplinks. SIA’s comments suggested a “modest expansion of the ATIS rule to cover digital video transmissions from satellite news gathering (“SNG”) vehicles.” SIA, however, recommended that the

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27 Id.

28 Intelsat Comments, 8.

29 Notice, ¶ 153.

30 SIA Comments, 63.
Commission defer consideration of further ATIS expansion pending the development of carrier identification technology.31

Intelsat supports a modest expansion of the ATIS rule to cover digital video transmissions from SNG vehicles. Additionally, Intelsat encourages the Commission to monitor closely the development of ATIS technology. Indeed, the Commission should engage with those developing carrier identification systems and help facilitate innovation in the carrier ID field. Once the technology matures sufficiently, the Commission should reevaluate the expansion of ATIS technology to all satellite uplink transmissions.

E. The Commission Should Continue its Commitment to Rules that Provide Earth Stations with Critical Look Angle Protections

In its comments, Engineers for the Integrity of Broadcast Auxiliary Services Spectrum’s (“EIBASS”) recommended that the Commission impose new limitations on the frequencies and look angles of satellite earth stations that would require licensees to undertake a new prior coordination notice (PCN) study if a shared band is involved before the earth station could obtain protection at a different look angle.32 The Commission should once again affirm protections for fixed satellite services (“FSS”) that share spectrum on a co-primary basis with the fixed services (“FS”). There is no reason to expend valuable resources reevaluating a proposal that the Commission consistently has rejected.

EIBASS’s comments ignore the fact that the FCC thrice has considered this issue and consistently rejected identical changes. First, in response to a 1999 Fixed Wireless

31 Id.
Communications Coalition ("FWCC") petition to replace the full-band earth station licensing standard, the Commission explained that it would not consider changes to the coordination rules:

At this time, we do not believe it is necessary to change our policy of authorizing earth stations, subject-to-coordination with FS operators prior to licensing, to use the entire pertinent frequency bands. Our full-band licensing policy promotes important operational objectives in the FSS, in particular by providing earth station licensees the needed flexibility to change transponders or satellites on short notice, and without having to be re-licensed by the Commission, to meet changing operational requirements.33

In the Second Report and Order regarding the same petition, the Commission again described the need for full angle protections and explained “FSS and FS services have significantly different requirements for access to the electromagnetic spectrum in order to meet their business needs.”34 In late 2012 the Commission once again affirmed in its Report to Congress that there was no factual basis for a determination that the frequency coordination regime for fixed point-to-point microwave systems perpetuates the inefficient use of spectrum or is otherwise in conflict with the public interest.35

As in 2000, 2002, and 2012, licensees depend on the flexibility to reorient their earth stations, and change frequencies and points of communication with little notice.36 EIBASS’s proposed revisions to the protections afforded downlink frequencies and look angles for satellite earth stations would jeopardize earth station licensees’ ability both to respond to the dynamic

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36 See supra nn.33-35.
within the frequency band (specific spectrum utilization can shift rapidly) and spatially (to communicate with different satellites) in order to meet customer needs.\textsuperscript{37} EIBASS presents no evidence to justify a departure from the Commission’s long-standing commitment to upholding FSS earth station frequency and look angle protections, much less to consider its—effectively—very late-filed, redundant, and out-of-place petition for reconsideration lodged here.

\textbf{F. EchoStar Presents No Evidence to Support a Departure from Long-Standing Commission Review for Foreign-Licensed Space Stations Seeking U.S. Market Access in the Extended Bands}

The Commission should follow its precedent and reject EchoStar’s proposal to redefine the Permitted Space Station List to include the extended C- and Ku-bands.\textsuperscript{38} In its prior consideration of this issue, the Commission consistently reasoned that the threat of interference posed by non-U.S.-licensed space stations presented a unique need for careful coordination review procedures.\textsuperscript{39}

In its comments, EchoStar seeks a definition of the Permitted Space Station List that encompasses all foreign-licensed GSO space stations authorized to serve the United States in the

\textsuperscript{37} Both Intelsat and SIA commented in prior proceedings opposing this same change. See Reply Comments of the Satellite Industry Association, \textit{Amendment of Part 101 of the Commission’s Rules to Facilitate the Use of Microwave for Wireless Backhaul and Other Uses}, WT Docket No. 10-153 (filed Nov. 22, 2010) (highlighting the need to ensure that FSS continue to have meaningful access to spectrum shared with FS networks); Joint Reply Comments of PanAmSat Corporation and SES Americom, Inc., \textit{Amendments of Parts 25, 74, 78, and 101 of the Rules Regarding Coordination between the Non-Geostationary and Geostationary Satellite Orbit Fixed-Satellite Service}, ET Docket No. 03-254 (filed Mar. 18, 2004) (opposing the Society of Broadcast Engineers proposal to reduce full band protection) (PanAmSat Corporation subsequently was acquired by Intelsat).

\textsuperscript{38} See EchoStar Comments, 4.

\textsuperscript{39} See 2003 Space Station Rules Amendment, 18 FCC Rcd at 10881 (2003); see also Star One S.A. Petition for Declaratory Ruling to Add the Star One C1 Satellite at 65° W.L. to the Permitted List, Opinion, 19 FCC Rcd 16334, 16339 (2004) (“The Commission has consistently held that, because of interference concerns with other services operating in the extended bands, the Permitted List includes only the conventional C and Ku-bands.”).
Fixed Satellite Services.\textsuperscript{40} Recognizing the non-routine nature of these applications by foreign-licensed space stations, the Commission has consistently rejected redefining the permitted list to include the extended C- and Ku-bands.\textsuperscript{41} The Commission previously explained:

> the earth station license modification procedure is very important in cases in which the non-U.S.-licensed satellite operator plans to operate in the extended C-band or extended Ku-band, because those operations often require coordination with terrestrial service providers and other service providers.\textsuperscript{42}

The Commission’s long-standing position opposing EchoStar’s proposed change applies with equal force to this proceeding. EchoStar offers no evidence of changed conditions that would justify less stringent review. Further, EchoStar’s explanation that the Commission has the authority to review individual earth station applications for compliance with band-specific rules does not outweigh the Commission’s need to ensure coordination through pre-market-access review.\textsuperscript{43} Given the potentially detrimental effects of a changed definition, and the absence of evidence of changed conditions, the Commission should maintain its existing definition of the Permitted Space Station List.

G. To Promote Greater Efficiency and Flexibility the FCC Should Reflect Global Best Practices in the Streamlined Satellite Rules

Intelsat welcomes the Commission’s willingness to consider global best practices in updating and streamlining its satellite licensing requirements.\textsuperscript{44} The \textit{Notice} requested input on “whether there are technical rules or technical practices developed by other countries that might

\textsuperscript{40} See \textit{EchoStar Comments}, 4.

\textsuperscript{41} See 2003 \textit{Space Station Licensing Rules Order}, 10881.

\textsuperscript{42} \textit{Id}.

\textsuperscript{43} See \textit{EchoStar Comments}, 5.

\textsuperscript{44} \textit{Notice}, ¶ 155.
further the Commission’s policy objectives and be incorporated in Part 25.”\(^{45}\) In response, SIA encouraged the Commission to consider “global best practices in updating its own satellite licensing requirements.”\(^{46}\) Intelsat supports SIA’s multifaceted approach to simplifying the Part 25 rules; however, SIA’s comments do not go far enough.

Instead, Intelsat seconds The Global VSAT Forum’s recommendation that the Commission emulate other countries in applying “the least onerous authorization system possible” for the regulation of space and earth station licensing.\(^{47}\) This vision of the least onerous system possible similarly motivates Intelsat’s proposal to eliminate the use of FCC Form Schedule S because it duplicates the information already provided by applicants in narrative form.\(^{48}\) In addition to eliminating Schedule S, Intelsat encourages the Commission to use global best practices as a model for Part 25 streamlining. Toward this end, the Commission should align its space station requirements with effective practices that have evolved abroad.

Comparably expert foreign licensing authorities impose fewer requirements that to a certain extent rely on the information already included in the associated filing with the International Telecommunication Union (“ITU”). These foreign regulatory agencies are able to maintain safe and effective operations and simultaneously impose fewer burdens on applicants and licensees. U.S.-licensed satellites are competing globally against numerous foreign-licensed

\(^{45}\) Id.

\(^{46}\) SIA Comments, 66.


\(^{48}\) See Intelsat Comments, 10. But see EchoStar Comments, 7 (requesting the Commission retain Schedule S as a common form for an application’s technical material because there is a need for a common format). Intelsat reiterates its position that Schedule S should be eliminated because applicants already provide the Schedule S information in narrative form.
spacecraft. The Commission should consider the competitive effect of subjecting U.S. licensees
to a more burdensome, lengthy, and costly licensing process. Satellites are a global business (the
FCC itself licenses orbital slots that are incapable of transmitting to U.S. territory) and the U.S.
regulatory regime is in effect competing against other countries’ regulatory systems—and
potentially losing. Consequently, the Commission should revise its rules particularly in the areas
described below:

Satellite Description Requirements. The Commission’s satellite description
requirements far surpass those required by other nations. In the U.S., satellite operators must
provide extensive information about the structure and design of the satellite, including detailed
information about the satellite’s communication and command telemetry antennas, solar wings,
earth and sun sensors, and spacecraft thrusters, in addition to detailing the proposed satellites
dimensions, mass, power budgets, and estimated operational lifetime.\textsuperscript{49} The Commission’s
requirements contrast with considerably simpler standards required by foreign authorities, which
are more closely aligned with ITU requirements. For example, German applicants submit the
name of the satellite, and the German authority then references the ITU satellite network filing
when making licensing decisions.\textsuperscript{50} Because a satellite’s physical design information is not
required in order to assess the interference environment, the Commission should eliminate the
requirement to describe the physical characteristics of satellites.

Safe-Orbit Information. The FCC requires satellite operators to provide an extensive
orbital debris mitigation plan with detailed information concerning satellite design and the post-


\textsuperscript{50} See Procedure for filing satellite systems with the International Telecommunication
Union and assigning German orbit and frequency usage rights, Aug. 2005, VERORDNUNG
[BGBL. II] at Section 3 (Ger.).
mission disposal plan. For safe-orbit information, Canadian licensees need only comply with ITU recommendations for removing geostationary satellites, and in Germany decommissioning a satellite simply requires compliance with international standards. Therefore, the Commission should implement the successful safe-orbit practices adopted by other countries.

**Transmission Parameters.** FCC satellite applicants face significant burdens of time and cost compiling transmission parameter information. Commission applicants must submit detailed link noise budgets, a description of the transmission characteristics and performance objectives for each type of proposed service, emission designators and allocated bandwidths, and receiver and transmitter channel filter response characteristics, among other requirements. These obligations contrast with the limited requirements of other space station licensing authorities for transmission parameter information and far surpass the requirements imposed by the ITU. In the United Kingdom, applicants submit only the information already compiled under the ITU’s Radio Regulations Appendix 4. Similarly, in Germany applicants supply only their orbital location and payload and TT&C frequencies.

Further, to demonstrate power flux density compliance, Commission licensees must provide a calculation of the power flux density levels within each coverage area and demonstrate

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52 Licensing of Space Stations, INDUSTRY CANADA CLIENT PROCEDURES CIRCULAR, CPC-2-6-02, Issue 2, Section 4.3, July 2008 (Can.).

53 See supra n.50 at Section 3.7 (“Operation at the end of service life”).

54 See, e.g., 47 C.F.R. §§ 25.114(c), (d), 25.140(b) (2011).

55 Outer Space Act 1986, 1986, Licence Application Form, Licence Application, Question 14, Revised Guidance for Applicants, § 1.3, Question 10 (Eng.).

56 See supra n.50.
compliance with the Commission’s power flux density rules for different angles of arrival.\textsuperscript{57} Comparatively, Germany requires compliance with the ITU Radio Regulations,\textsuperscript{58} and Canada requires compliance with the ITU Radio Regulations and with any agreements made by the Canadian administration.\textsuperscript{59} Intelsat encourages the elimination of extensive transmission parameter requirements. The inclusion of such information is of limited value in assessing interference from/to other satellite networks. For operation between two U.S.-licensed satellites, complying with the Commission’s two-degree rules requires no coordination. In all other cases, the interference environment in the vicinity of a satellite is determined through coordination discussions between the impacted satellite operators, not through any interference analysis that may be contained in an application. As such, the Commission should look to its foreign counterparts, which in some cases do not require any information other than that already included in the associated ITU filings.

\textbf{Redeployment of Licensed Satellites}. In practice, the FCC requires the same amount of technical and corporate information for redeployment to another licensed location as it requires for a new application.\textsuperscript{60} Most foreign space station authorities have informal requirements for redeployment that require little more than notice of the change in location.\textsuperscript{61} As Intelsat and

\textsuperscript{57} See 47 C.F.R. § 25.114(c)(8), (d)(6) (2011).

\textsuperscript{58} See supra n.50 at Section 3.4 (“Spectral purity, other RR requirements).

\textsuperscript{59} See supra n.52.

\textsuperscript{60} See 47 C.F.R. § 25.117 (2011).

EchoStar explain in their own comments, and as discussed above, the Commission should amend its rules to provide licensees maximum flexibility to redeploy licensed satellites in a fashion that will not increase harmful interference.62

As stated above, Intelsat believes that much of the required information under the current rules is unnecessary and that an applicant for a geostationary FSS space station license should only be required to provide the following information:

- Applicant name and contact information
- Satellite orbital data
  - Nominal orbital location of the satellite
  - North-South and East-West station-keeping volume of the satellite about the nominal orbital location
- Satellite characteristics
  - Channel frequency-polarization plan
  - Channel bandwidth
  - Uplink beams, excluding command beams: coverage contours, beam peak G/T, and SFD range at beam peak
  - Command beams: coverage contours and beam peak command threshold flux density
  - Downlink beams: coverage contours and beam peak EIRP
  - Maximum downlink EIRP density of carriers, categorized by carrier type, i.e., digital or analog
  - Maximum uplink power density of carriers, categorized by carrier type, i.e., digital or analog, associated with the off-axis gain characteristics of Section 25.209. Alternatively, provide the maximum EIRP density by carrier type, i.e. digital or analog, as a function of the off-axis angle.

62 See Intelsat Comments, 8; EchoStar Comments, 11.
• Certification of compliance with applicable PFD limits
• Certification of compliance with de-orbit and orbital debris rules

Intelsat appreciates the Commission’s request for input on technical rules and policies developed by other countries which could serve as a model for Part 25 changes, and supports the adoption of the least onerous system possible consistent with the regulatory approaches described above. Otherwise, the Commission could be conceding a competitive advantage to non-U.S.-based satellite systems that compete with U.S.-licensed operators.

III. CONCLUSION

Intelsat is pleased to support the FCC’s streamlining efforts. Towards that end, the Commission should adopt the proposed recommendations, amendments, and revisions to the rules discussed herein.

Respectfully submitted,

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