

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Modernizing the E-Rate Program For Schools and Libraries	)	WC Docket No. 13-184
	)	
	)	

**REPLY COMMENTS OF THE  
LEADING EDUCATION BY ADVANCING DIGITAL  
("LEAD") COMMISSION**

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November 8, 2013

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The bipartisan Leading Education by Advancing Digital (“LEAD”) Commission respectfully submits these Reply Comments in response to the initial comments filed pursuant to the July 23, 2013 Notice of Proposed Rulemaking (“NPRM”) in the above-captioned proceeding.<sup>1</sup>

**I. INTRODUCTION AND EXECUTIVE SUMMARY.**

As explained in the LEAD Commission’s initial comments, the Federal Communications Commission (“FCC” or “Commission”) has a mandate to usher in an era of 21<sup>st</sup> century communications technology in schools and libraries to ensure that all our students are equipped with the skills necessary to compete in today’s global economy.<sup>2</sup> Modernization of the E-Rate program is essential to fulfilling that congressional mandate by upgrading our schools’ infrastructure from the current inadequate bandwidth to sufficient high-speed broadband in a timely, efficient manner. A revitalized E-Rate program will ensure ample broadband access in schools and libraries across the nation – including in rural and urban areas, public and private

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<sup>1</sup> The LEAD Commission is co-chaired by: Lee Bollinger, President of Columbia University; James Coulter, co-founder of TPG Capital; Margaret Spellings, former U.S. Secretary of Education; and James Steyer, founder and CEO of Common Sense Media.

<sup>2</sup> See 47 U.S.C. § 254(b)(6).

schools, and underserved communities – so that we can harness the power of technology for the next generations of American students.<sup>3</sup>

More than 600 initial comments have been filed in this proceeding by industry leaders, public interest groups, national education organizations, state departments of education, school districts, and even individual schools, many of which do not typically participate in FCC proceedings. The impressive number and diversity of commenters provides a solid record supporting this proceeding and highlighting the LEAD Commission’s belief that the FCC has the opportunity – and the obligation – to help provide American classrooms and libraries with state-of-the-art communications technology.

These Reply Comments focus on five key concepts that emerge from the record and that will advance the FCC’s goals of E-Rate modernization:

1. The comments reflect nearly universal support for the belief that America urgently needs to put the tools of modern communications technology into the hands of students, teachers, and schools.
2. The strong consensus among commenters is that the FCC must upgrade its E-Rate program to improve bandwidth capacity.
3. The record demonstrates that the FCC should clearly establish the goals of the program while enabling local flexibility in how to achieve those goals.
4. The record demonstrates that the FCC must design the program to assure that the beneficiaries of E-Rate spend the program’s funds only in ways that efficiently serve to achieve those clearly established goals.

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<sup>3</sup> LEAD Commission Comments at 3.

5. The record demonstrates that the FCC should set the budget for the E-Rate program based on the efficient achievement of the congressionally mandated universal service goal within a reasonable period of time.

## **II. THE E-RATE PROGRAM URGENTLY NEEDS TO PUT THE TOOLS OF 21<sup>ST</sup> CENTURY COMMUNICATIONS TECHNOLOGY INTO THE HANDS OF STUDENTS, TEACHERS, AND SCHOOLS.**

As the FCC correctly noted in launching this proceeding, the “first goal” of reform should be to bring 21<sup>st</sup> century technology to teachers and students, to allow them “to take advantage of the rapidly expanding opportunities for interactive digital learning.”<sup>4</sup> The LEAD Commission agrees with Commissioner Pai that “[t]oday, too many children in the United States step off the school bus, only to walk decades into the past. This is unacceptable.” “Parents are right to expect that schools will help prepare their children for the America of tomorrow, and they know that can’t happen in a classroom of yesterday.”<sup>5</sup> Thus, the LEAD Commission’s Blueprint lays out five key actions that advance the goal of bringing our classrooms into the 21<sup>st</sup> century.<sup>6</sup>

The record in this proceeding reflects near unanimous agreement on the need to meet the growing needs of students and teachers by providing schools with modern technology.<sup>7</sup> More broadly, there is evidence that young Americans are already falling behind their international

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<sup>4</sup> *In re Modernizing the E-rate Program for Schools and Libraries*, Notice of Proposed Rulemaking, 28 FCC Rcd 11,304, 11,313 ¶ 17 (2013) (“NPRM”).

<sup>5</sup> Remarks of Commissioner Ajit Pai, *Connecting the American Classroom: A Student Centered E-Rate Program*, 2013 WL 3753639 (FCC July 16, 2013), available at <http://www.fcc.gov/document/commissioner-pai-speech-student-centered-e-rate-program>.

<sup>6</sup> LEAD Commission, *Paving a Path Forward for Digital Learning in the United States* at 2-3 (June 2013) (“LEAD Blueprint”), <http://www.leadcommission.org/sites/default/files/LEAD%20Commission%20Blueprint.pdf> (setting forth plan to (1) solve the infrastructure challenge by updating the wiring of our schools; (2) build a national effort to deploy devices; (3) accelerate the adoption of digital curriculum; (4) embrace and encourage model schools; and (5) invest in human capital); see also LEAD Commission, *Paving a Path Forward for Digital Learning in the United States* at 12-14 (Sept. 2013) (“LEAD Report”), available at [http://www.leadcommission.org/sites/default/files/LEADComm\\_PavingPath\\_Report\\_091013a\\_highres\(1\).pdf](http://www.leadcommission.org/sites/default/files/LEADComm_PavingPath_Report_091013a_highres(1).pdf).

counterparts when it comes to skills in technology-rich environments. In a recent report by the Organisation for Economic Co-operation and Development, the United States ranked below the international average in math, reading, and problem-solving assessments and *last* among 19 countries in technology skills of young adults.<sup>8</sup> By contrast, South Korea – which had the highest scores in the same study – currently has 100 percent broadband connectivity to schools, has trained all teachers in digital curriculum, and has plans underway to eliminate printed textbooks by 2016.<sup>9</sup>

But we do not even need to look beyond our borders to see that the dynamic qualities of today’s digital learning revolution can deliver more interactive and personalized instruction to meet each student’s needs. As Cisco has explained, the “technological revolution and the resulting improvement in outcomes can readily be observed in a growing number of schools, where teaching and learning is rapidly expanding beyond the four-walled classroom.”<sup>10</sup> With examples such as the Paradise Valley Unified School District in Arizona, Mooresville Graded School District in North Carolina, the Southern California Online Academy of the Lake Elsinore Unified School District and others, robust blended and digital learning capabilities, combined with teachers trained in how to best leverage these assets, are being utilized to dramatically increase student achievement.<sup>11</sup> These examples make clear that by harnessing the power of technology that is available now, on a cost-effective basis, we can revolutionize how we educate our children and improve their ability to be in the top tier of international achievement.

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<sup>8</sup> OECD, *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills* at 108 (2013), available at <http://www.oecd.org/site/piaac/Skills%20volume%201%20%28eng%29--full%20v8--eBook%20%2801%2010%202013%29.pdf>; LEAD Report at 5-6.

<sup>9</sup> Cisco Comments at 3; *OECD Skills Outlook 2013*, *supra* note 8, at 108.

<sup>10</sup> Cisco Comments at 1.

<sup>11</sup> Cisco, White Paper, *High-Speed Broadband in Every Classroom: The Promise of a Modernized E-Rate Program* at 4-5 (Sept. 2013) (attached as Exhibit A to Cisco Comments); International Association for K-12 Online Learning Comments at 22-24; EducationSuperHighway Comments at 3.

Given the undeniable trend of technology in learning and its potential to improve our students' educational outcomes, the E-Rate program must be revamped to facilitate the current state of digital learning and the ability to meet the demands of tomorrow. Put simply, the FCC's decisions in this process should be judged by the following metric: whether the E-Rate program is modernized and future-proofed in a way that empowers all students to continually benefit from the latest technological innovations within the next few years and for generations to come.

### **III. THE FCC MUST UPGRADE ITS E-RATE PROGRAM TO IMPROVE BANDWIDTH CAPACITY.**

The overwhelming consensus of commenters is that although E-Rate has been remarkably successful in connecting America's schools and libraries to the Internet, the program must maintain what it has achieved and be substantially upgraded.<sup>12</sup> Prior to E-Rate, only 14 percent of schools and libraries had connectivity, and now nearly all schools have connectivity.<sup>13</sup> As the Benton Foundation states, "[t]he E-Rate program has successfully connected our nation's schools and libraries to the Internet. However, as nearly every party filing in this docket suggested, to take full advantage of today's best educational information and services, our community institutions (schools and libraries) will need more than basic connectivity; they need support for high-capacity broadband."<sup>14</sup>

In short, the record is nearly unanimous that the status quo is unacceptable and urgent action is needed if the country is to provide America's schools with the tools of 21<sup>st</sup> century

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<sup>12</sup> E.g., Comcast Comments at 3; Council of Great City Schools Comments at 3; Comments of Education and Libraries Networks Coalition at 3; Iowa Department of Education Comments at 1-3; US Cellular Comments at 1-2.

<sup>13</sup> Press Release, FCC, *FCC Launches Modernization Of E-Rate Program To Deliver Students & Teachers Access To High-Capacity Broadband Nationwide*, 2013 WL 3803457 (July 19, 2013), <http://www.fcc.gov/document/fact-sheet-update-e-rate-broadband-schools-and-libraries>

<sup>14</sup> Benton Foundation Comments at 4; *see also* Statement of Commissioner Jessica Rosenworcel, NPRM, 28 FCC Rcd at 11,473-74; West Virginia Department of Education Comments at 6; AT&T Comments at 1-2; Bureau of Indian Affairs/Bureau of Indian Education Comments at 2; Qualcomm Comments at 5; American Library Association Comments at 2.

technology and thus enable the United States to lead the world in digital learning – and a technology-driven global economy.<sup>15</sup>

#### **IV. THE FCC NEEDS TO CLEARLY ESTABLISH GOALS FOR THE UPDATED E-RATE PROGRAM WHILE ENABLING LOCAL FLEXIBILITY IN HOW TO ACHIEVE THOSE GOALS.**

The record reflects a broad consensus that the FCC should clearly establish that the principal task of the E-Rate program is to enable sufficient, baseline broadband connectivity and capacity in every classroom so as to enable all students to take advantage of digitally delivered educational content. Just as no thriving American company makes its IT purchasing decisions today based on the state of technology in 1996, no school should have its technology priorities set by what was available nearly two decades ago.

While there is a range of proposed bandwidth goals, the LEAD Commission recommends that the Commission adopt as an initial minimum threshold the targets identified by the State Education Technology Directors Association (“SETDA”) and supported by a number of other commenters: 100 Mbps for every 1,000 students by 2014-2015 and 1 Gbps by 2017-2018.<sup>16</sup> However, in order to anticipate the needs of future generations, the Commission should supplement these targets with an explicit goal of ensuring that the solutions supported by the E-Rate program are rapidly and cost effectively scalable with the capacity to meet future needs.

While it is critical that the FCC establish clear connectivity goals, it should adopt rules that are technology neutral as to how the goals are achieved, as urged by several commenters.<sup>17</sup>

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<sup>15</sup> E.g., Cox Cable Comments at 3; Cisco Comments at 4; Education Coalition Comments at 2; SETDA Comments at 3; SHLB Comments at 2; Telecommunications Industry Ass’n Comments at 3; Verizon Comments at 1.

<sup>16</sup> Hewlett-Packard Comments at 9; Illinois Fiber Resources Group Comments at 2-3; SETDA Comments at 16.

<sup>17</sup> E.g., ADTRAN Comments at 2-3; Friday Institute Comments at 5; State of Arkansas Comments at 14; Sprint Comments at 2; SETDA Comments at 21; Funds for Learning Comments at 3, 24; NCTA Comments at 9.

The LEAD Commission therefore agrees with AT&T, the South Dakota Department of Education, the Los Angeles Unified School District, the Leadership Conference on Civil and Human Rights, and other commenters who recommend that the FCC continue to allow local flexibility to schools and libraries so they may choose the solution that delivers the capacity they need at the lowest possible cost while ensuring the most cost effective upgrade path to meet growing bandwidth needs.<sup>18</sup>

Indeed, the LEAD Commission concurs with Secretary Duncan that federal programs in education should be “tight on goals – having a very high bar – and loose on how to get there. We should give people a lot more room and flexibility to create and to be innovative.”<sup>19</sup> The E-Rate program should be flexible enough to allow for experimentation and innovation by individual schools and designed with the understanding that while there will be network elements and basic capacity needs that are universal in schools across the country, there will also be numerous variations among individual school buildings and network infrastructures based on particular circumstances.<sup>20</sup>

**V. THE E-RATE PROGRAM MUST BE DESIGNED TO ASSURE THAT ITS BENEFICIARIES SPEND E-RATE FUNDS ONLY IN WAYS THAT EFFICIENTLY SERVE CLEARLY ESTABLISHED GOALS.**

Clearly established connectivity goals will foster careful stewardship of public funds and assure that resources are not spent in ways that do not support the E-Rate program’s mission.

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<sup>18</sup> AT&T Comments at 4-5; South Dakota Dep’t of Education Comments at 8; Los Angeles Unified School District Comments at 9-11; Leadership Conference on Civil and Human Rights Comments at 2; PCIA Comments at 6-7; The Quilt Comments at 7; Telecommunications Industry Ass’n Comments at 3-4; National Hispanic Media Coalition Comments at 2; Education Coalition Comments at 18.

<sup>19</sup> Remarks of Education Secretary Arne Duncan, *quoted in* David Leonhardt, *A Report Card on Education Reform*, N.Y. Times, Sept. 25, 2013, at [http://economix.blogs.nytimes.com/2013/09/25/a-report-card-on-education-reform/?\\_r=0](http://economix.blogs.nytimes.com/2013/09/25/a-report-card-on-education-reform/?_r=0).

<sup>20</sup> Comcast Comments at 17-18; Amplify Comments at 11.

The record contains examples of how funds are being spent that do not efficiently serve the goals of the program.<sup>21</sup> The FCC should act to prevent such inefficiencies.

One area where the FCC should act is to design rules that favor purchasing assets that are cost effective over the long term, rather than only in the short term. As numerous commenters noted,<sup>22</sup> IT purchases should reflect the need to scale up to meet bandwidth needs as they grow, as opposed to making penny-wise, pound-foolish, incremental purchases of assets that have limited bandwidth and are not future proofed. Every business understands that it needs to consider long-term costs; that is, it must often invest more upfront to save in the future. Likewise, the FCC should set rules that consider long-term costs – and not just short-term expenditures – that will translate into significant benefits and savings to the program in the long run.<sup>23</sup> This will enable networks that are scalable and capable of eventually meeting long-term benchmarks.<sup>24</sup>

The record strongly suggests that a major source of cost efficiencies can be found by changing the current priority system.<sup>25</sup> The FCC should consider phasing down funding of legacy, narrowband services or other services that do not support high-capacity broadband connectivity. Hewlett-Packard points to services such as “paging services, directory assistance, custom calling features, inside wiring maintenance plans, call blocking, 800 number services, text messaging, and cellular data plans and air cards that are not used directly for student

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<sup>21</sup> E.g., California Dep’t of Education Comments at 5.

<sup>22</sup> Internet2 Comments at 12-13; Utah Education Network Comments at 9; Washington State Office of Superintendent of Public Instruction Comments at 2; PCIA Comments at 6-7.

<sup>23</sup> Amplify Comments at 3.

<sup>24</sup> Comcast Comments at 19; Internet2 Comments at 12.

<sup>25</sup> AT&T Comments at 9-10; City of Boston Comments at 5-6; Comcast Comments at 21-23; Education Coalition Comments at 18; Hewlett-Packard Comments at 14-15; Alabama State Department of Education Comments at 9, 12-14.

education.”<sup>26</sup> The record also supports phasing out funding for voice telephony and other services that are not used directly for student learning.<sup>27</sup> By phasing down funding for these services, E-Rate funds can be spent more cost-effectively towards meeting both immediate and long-term bandwidth goals.

Additionally, the FCC should redesign the E-Rate program to incent consortium and bulk buying opportunities that will simplify the purchasing process and increase access and cost efficiency. This is particularly important in two respects. First, consortia are critical to create sufficient scale for providing high-speed Internet access connectivity to the school. The key to getting schools great prices on wide area network (WAN) infrastructure is encouraging competitive providers to bid. When this happens, prices may drop by 70 percent or more. However, competitive providers will only bid if there is sufficient scale to the opportunity. Second, if E-Rate is going to fund an upgrade of the local area networks (LAN) and Wi-Fi infrastructure within our K-12 schools, it needs to take advantage of its incredible purchasing power to ensure that it gets the prices that such an upgrade deserves. Given the size and scope of the equipment and services that schools utilize, schools should not be getting the same prices as a vendor’s best commercial customers – they should be getting the *best* prices of *any* customer. That will not happen unless schools aggregate their purchasing power.

The Commission should also consider redesigning the E-Rate program to facilitate multi-year contracts that will increase buying power for schools and libraries.<sup>28</sup> Moreover, the rules should enable and incent schools to purchase bandwidth through networks that can increase capacity on a cost-efficient basis. For example, schools could get far better rates for bandwidth

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<sup>26</sup> Hewlett-Packard Comments at 15.

<sup>27</sup> American Library Association Comments at 4-5, 14-15; Communications Workers of American Comments at 4; Alliance for Excellent Education Comments at 9.

<sup>28</sup> Comcast Comments at 6; Education Coalition Comments at 25; Internet2 Comments at 17-18; San Diego County Office of Education Comments at 4.

if they were able to connect into state research and education (R&E) networks and leverage their buying power.

Just as every business sets standards for the assets and services it purchases, so too should the FCC determine goals that will maximize cost efficiency in the E-Rate program. Clearly stated goals are also necessary to reduce waste. Importantly, wasteful spending does not necessarily mean fraud and abuse. Inefficient spending in the context of the E-Rate program should also be defined as using funds towards outdated narrowband, legacy technologies that do not amount to delivering the most bandwidth bang for the broadband buck.

The FCC can find additional cost-savings by fostering *transparency* and making all E-Rate data public in accordance with the government's open data standards.<sup>29</sup> Such transparency will help ensure that E-Rate recipients do not overpay for communications services.

Moreover, the FCC should require *additional data* in three central areas, to help ensure that E-Rate funds are allocated and managed efficiently and effectively:

- Data on what is installed today in order to target funds to where they are most needed;
- Data on what is being used today so funds can be allocated to schools that actually need more; and
- Data on how funds are actually being spent so that actions can be taken to optimize funding decisions and lower the costs of purchases on an ongoing basis.

Collecting this data will help lower costs by: (1) focusing the E-Rate program on what schools need most; (2) ensuring that schools are receiving the optimal prices available; and (3) ensuring E-Rate funds are only spent on equipment and services needed to achieve the program's goals. It will also ensure that schools do not buy capacity beyond their actual needs. In addition,

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<sup>29</sup> Office of Mgmt. & Budget, Exec. Office of the President, M-13-13, Open Data Policy – Managing Information as an Asset (May 9, 2013), *available at* <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-13.pdf>

collecting this data will enhance the program's fairness by ensuring that funds are directed first to those schools that don't meet the program's goals and second to those schools that need capacity beyond the threshold levels set by the program.

**VI. THE FCC SHOULD SET THE BUDGET FOR THE E-RATE PROGRAM BASED ON THE EFFICIENT ACHIEVEMENT OF THE CONGRESSIONALLY MANDATED UNIVERSAL SERVICE GOAL WITHIN A REASONABLE PERIOD OF TIME.**

The purpose of the Universal Service Fund is to assure that all communities have a baseline of communications services.<sup>30</sup> In 1996, Congress added schools, libraries, and rural health care facilities to the Universal Service program to assure a baseline of communications to these critical public facilities. Congress never set a cap on any of these funds, but used its oversight powers to assure that the FCC had to justify publicly its expenditures. So here, the FCC has an obligation to define a baseline of communications services that every student should have in his or her classroom.

The budget exercise should begin with an assessment of the services and equipment that need to be funded and an assessment of the costs to deploy those across the country over a reasonable time horizon.<sup>31</sup> IT budgets today are very different than they were in 1996. As the Schools, Health & Libraries Broadband Coalition ("SHLB") noted, in the first decade of the 21<sup>st</sup> century, federal information technology grew at six percent while E-Rate funding increased zero percent.<sup>32</sup> That means that relative to the federal approach to IT, the E-Rate program today is approximately 160% below what it would be, if it were to track a similar approach. While we are of course not suggesting the E-Rate budget increase by that magnitude, the point is that the

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<sup>30</sup> FCC, Guide, Universal Service Support Mechanisms, <http://www.fcc.gov/guides/universal-service-support-mechanisms>

<sup>31</sup> Cisco White Paper at 5 (Exhibit A to Cisco Comments).

<sup>32</sup> Schools, Health & Libraries Broadband (SHLB) Coalition Comments at 3-4.

E-Rate budget should reflect the circumstances of 2013 rather than be artificially set by the needs of 1996.

The current funding level for the E-Rate program reflects a cap that was not inflation adjusted for many years and, more importantly, was established long before high-capacity broadband became a necessity. To be sure, the needs for bandwidth today are greater today, as are the opportunities that better bandwidth creates. Moreover, there is evidence that the cost of technology today is changing dramatically to improve the cost effectiveness of purchasing larger bandwidth capacity. For example, as AT&T CEO Randall Stephenson recently stated, “[t]he cost dynamics for deploying fiber have radically changed. And it’s just the interfaces at the homes, the wiring requirements, how you get it dropped to a pole and splice it. It’s just totally changed the cost dynamics of deploying fiber.”<sup>33</sup>

In short, the FCC should, as noted above, set a baseline for connectivity, establish procedures for cost-effective purchasing, and set a budget based on those goals and methods, rather than on goals that were established in a dial-up world.

The budget should also reflect a timetable in which all students are provided access to baseline bandwidth thresholds within a reasonable time, which we believe should not be more than five years. This timeline is consistent with goals identified by others, including President Obama’s ConnectED initiative, the Alliance for Excellent Education’s “99 in 5” campaign, and the Benton Foundation.<sup>34</sup>

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<sup>33</sup> Remarks of AT&T CEO Randall Stephenson, Speech at Goldman Sachs Communacopia Conference (Sept. 24, 2013).

<sup>34</sup> White House, Fact Sheet, ConnectED: President Obama’s Plan for Connecting All Schools to the Digital Age, *available at* [http://www.whitehouse.gov/sites/default/files/docs/connected\\_fact\\_sheet.pdf](http://www.whitehouse.gov/sites/default/files/docs/connected_fact_sheet.pdf); Alliance for Excellent Education website, <http://99in5.org/>; Benton Foundation Comments at 3.

## **VII. CONCLUSION**

The LEAD Commission believes the recommendations described in these five key areas will advance the FCC's goal of E-Rate modernization and deliver the highest bandwidth to the most students at the lowest cost, and in the shortest amount of time. LEAD also believes it is imperative that the updated program ensures access to the highest quality digital teaching and learning tools to both urban and rural communities regardless of income level of individual school districts so that all students and teachers can fully share in the benefits of next-generation educational technology. It is not yet clear from the record what the proper size of the fund should be, but in no event should the current cap be allowed to limit our children's ability to take advantage of the transformative power of digital education.

Respectfully Submitted,

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