Volume 21, Issue 1

October 2011

NMGIC

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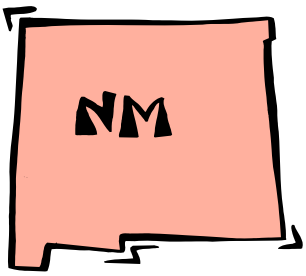
The Map Legend

NMGIC Fall 2011 Meeting

NMGIC's Fall 2011 Meeting will be held on Friday, October 28th, 2011 in Albuquerque at the Science & Technology Park (801 University Blvd SE). Free parking is available in the parking garage, west of the meeting room. There will be a Workshop on the previous day, Thursday October 27th. The meeting topic is "**What can you do with Free or Public-Domain Data?**

The Workshop on the 27th will have presentations on "Viewing and Processing LiDAR Data with Free and Open Source Tools" (by Rich Friedman), and "ArcGIS Online" (by ESRI's David Vaillancourt).

The meeting will be held at the Rotunda of the Science & Technology Park (a map, as well as meeting details can be found at the NMGIC website http://nmgic.com). A brief summary of the Meeting's agenda can be found inside this issue.



New Mexico State Broadband Initiative Program Update

by Gar Clarke, NM DoIT Geospatial Information Officer, August 2011

The New Mexico Broadband Program (NMBB) completed three data submittals to the National Telecommunications and Information Administration (NTIA) State Broadband Initiative (SBI) Program since June 2010. [Note: The SBI Program was formerly named the State Broadband Data and Development (SBDD) Program.]

UNM Earth Data Analysis Center collects data from Internet Service Providers (ISPs) and processes, models, and analyzes them to identify availability, speed, and location of broadband services. Results are used in maps, both on the Web and as feedback to participating ISPs, and in analyses to identify under-served communities and their barriers to

(Continued on page 6)

Inside this issue:

The Map Legend

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NMGIC Fall 2010Meeting *(Continued from page 1)*

Agenda for NMGIC Fall 2010 Meeting	
8:00am	Sign-in, Coffee
8:30am	Introduction and Announcements.
9:00am	Combating Spatial Neglect: "GISifying" Data that have never been seen outside of Word or Excel Larry Brotman, NM Tax and Revenue
9:40am	Coffee Break and Visit with Colleagues
10:10am	Geographic Information Systems Screening Tool of New Mexico (Susan Arfman, NMED)
10:50am	Case Studies for 3 Projects the Benefited from Availability of Free and/or Public Domain Data (Tom Pederson, Atkin Olshin Schaed Architects)
11:30pm	Demonstration of Maps.Cabq.Gov (Mike Rock, City of Albuquerque)
11:45pm	Lunch (provided)
1:00pm	Use of Public Domain Data to Develop a Mineral Resource Potential Study for the Bureau of Land Management (Rob Sengebush, (INTERA)
1:30pm	Break
2:00pm	GNIS Video (Roberto Valdez / Bob Julyan)
2:15pm	NMWatch—Natural Disasters Outreach Website (Shawn Penman, EDAC)
2:35pm	Vote for Best Talk (after the last presentation, everyone remaining will vote by acclaim for the presentation they liked best. Top 3 presenters will receive a semi-valuable prize
2:45pm	Wrap-up and door prize drawings.

Message From The NMGIC President—David Jordan

All attempts to write anything related to computers seems to stumble on the recent news of the death of Steve Jobs. Although there is not necessarily a direct and obvious connection between what Apple has done and the sort of GIS work that many of us do (how many of you are running GIS on a Mac??), it still seems worthy of a few words. I had been out of the Apple family for almost 30 years (unless you count my iPhone) until recently. In the late 1970s and early 1980s, I owned one of the original Apple II computers – back when we had to store all of our programs on cassette tape (remember those?). Back then 64K memory was a lot of space. Things have certainly changed a bit in one generation.

So I am back in the Apple family again, having had my last hurrah with the home PC, because invariably my kids would let a virus in and then I would be out a few hundred bucks for my IT guy to clean the machine up. So I find myself to be the proud owner of a shiny new iMac. With the passing of Steve Jobs I admit I was a little fearful that a certain era was coming to a close, and that we had to act fast to take part it in before it ended. Or perhaps I was coming under the influence of the famous Steve Jobs "reality distortion field", still so strong that it was continuing to influence me.

As I touched on in my last column, the next frontier in computing really seems to be a combination of the graphical user interface (GUI) and the ability to parse through mountains of data to get at the important patterns or meanings hidden in the data. I mention Apple only because they the first to really popularize the GUI concept, although the GUI was originally developed at Xerox in the late 1970s. In the interim was the Unix-based X Windows system of the 1980s. With the 1990s brought the inception of the Microsoft Windows system, which quickly came to dominate the market.

The next generation of GUIs will employ more and more 3D technology, taking advantage of advanced 3D rendering and motion, while taking input from hand and figure gestures, rather than just from a simple mouse. Some of this technology is currently available on many smartphones (finger-

The world's first mouse - we've come a long way, baby.

Windows Flip allows 3D navigation

based zooming in and out) as well as the desktop (for example Apple's Magic Trackpad). Another example is Windows Flip 3D, which allows you navigate through all of your open windows in a virtual 3D world. We are seeing some of this infiltrate the GIS world, even if it things as simple as being able to zoom in and out of a map using the wheel on the mouse. Advanced caching and tiling schemes have really improved the ability to navigate, but still seem to fall short of going as fast as we would like. The ultimate goal of all this technology is (and should continue to be) helping to allow the user to interact with the data – whether it is a GIS map or other data – in a way that is transparent and natural, such that we can spend more time analyzing and understanding the data, and less time managing it.

2011: look how far we've come.

New Mexico Broadband Mapping Program (continued)

(Continued from page 1)

broadband adoption and to help Community Anchor Institutions (CAIs), such as schools, libraries, and hospitals, use the technology effectively.

The New Mexico Broadband Program continues to develop new data sources to augment telecommunications data and to better serve the state's CAIs. Data sources include New Mexico's road centerline files, Public Regulation Commission, Public School Facilities Authority, State Libraries, and UNM Bureau of Business & Economic Research. NMBB is exploring crowd-sourcing programs as additional data-collection mechanisms. NMBB also is establishing partnerships with Homeland Security and Emergency Management and other state agencies and with regional tribal agencies to develop a robust Community Anchor Site Assessment (CASA) database.

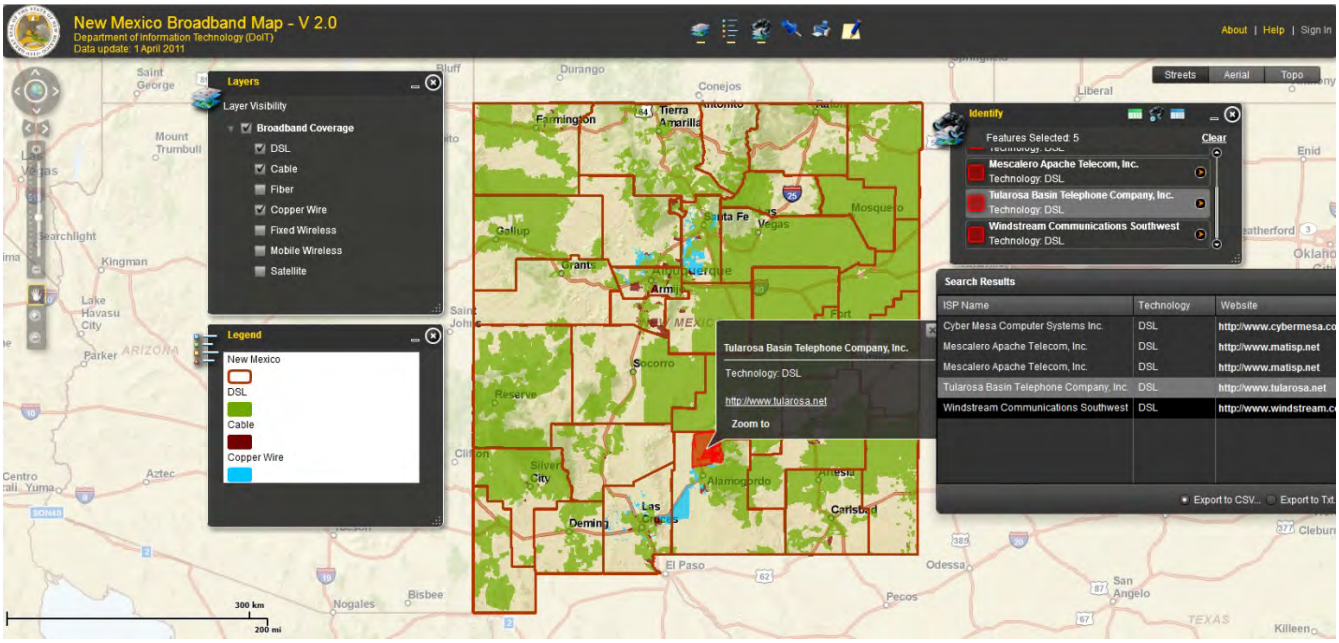
Visit **http://www.doit.state.nm.us/broadband/index.shtml** and explore our county broadband maps and statistical summaries. Treat yourself to a speed test!

New Mexico Broadband Update

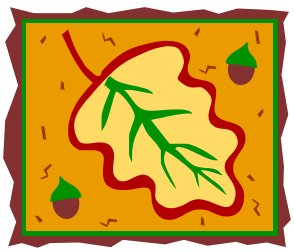
*by **UNM Earth Data Analysis Center**, August 2011*

Today's New Mexico Broadband Map includes Internet Service Provider (ISP) data from the April 2011 data submittal to the National Telecommunications and Information Administration (NTIA). Broadband-coverage data are collected from NM ISPs, validated, and processed geospatially to NTIA specifications, and submitted for the National Broadband Map (http://broadbandmap.gov/).

NM Broadband Map V 2.0 uses the ESRI® ArcGIS Server and API for Flex. It offers functions for standard Web mapping zoom, pan, and extent tools; layer selection; dynamic legend; identify (ISPs by technology type); find address (and ISPs for address); print; and feedback. Please visit http://www.nmbbmapping.org/mapping/.



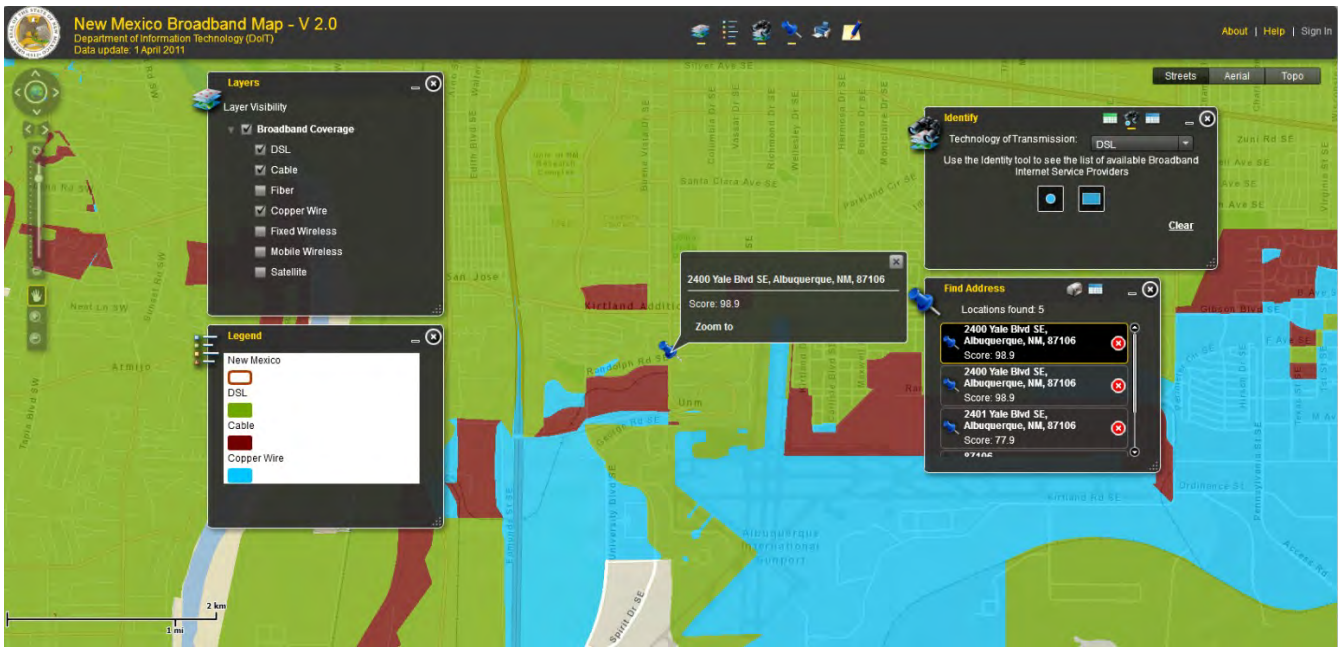
NM Broadband Map: Layers (DSL, Cable, Copper Wire), Legend, Identify; Identify DSL providers for user-defined rectangle; Identify – Search Results table allows export to CSV or TXT; nmbbmapping.org/mapping/, accessed 10 August 2011



Attention Students in GIT Classes...

NMGIC offers a scholarship worth up to $1000 to students working on GIT programs!!!

See *http://nmgic.com*



NM Broadband Map: Layers (DSL, Cable, Copper Wire), Legend, Find Address; nmbbmapping.org/mapping/, accessed 10 August 2011

New Mexico Watch: WildFires

In building the New Mexico Broadband Map (see below), the NM Broadband Program is researching ideas that will benefit from the core development of the Online Broadband Mapping functions managed by the NM Department of Information Technology (DoIT) and implemented by Earth Data Analysis Center (EDAC/UNM).

The "New Mexico Watch Demonstration Project" that focuses on Statewide Wildfire Reporting is an example of building onto the existing structure created by the Broadband Program. This online map service was spun up in just hours and is being updated once each day. The base maps include street, aerial imagery, and topography layers. The web site is "interactive". Meaning users who have broadband access (field/home/office) can measure (area and distances), draw to establish focus areas, annotate, and print. Also, individuals can tap in an address, zoom to that location, and reference the fire incident to an area. In addition, the locations of emergency operations centers, fire stations, law enforcement, hospitals, community centers, and schools are shown. Clicking on these locations and the Fire Areas will provide information.

New Mexico Watch: http://nmwatch.org/

New Mexico Broadband Map: http://nmbbmapping.org/mapping/

Please feel free to distribute this as you see fit. However, please state clearly that this is a "Demonstration Project".

Serri Grube and David Jordan.

Serri is the recipient of the $1000 PNM-NMGIC Education Grant.

A mystery SAG award for the NMDOT- I was sent a picture, but there is no mention of this on the ESRI SAG site!

Kevin Troutman with AMAFCA

http://events.esri.com/uc/2011/sag/list/?fa=Detail&SID=1299

NSGIC Update *by Leland J. S. Pierce, NM Representative to NSGIC*

Report on National States Geographic Information Council (NSGIC)

Both the state representative for New Mexico to NSGIC, Gar Clarke (NM Dept. of Information Technology) and NMGIC Vice-president Leland Pierce (NM Dept. Game & Fish, co-chair of NSGIC membership committee) attended the annual mid-year conference held in Annapolis, MD in late February. Major themes for the meeting were broadband, Next-generation 911, and US Census activities.

The biggest news was the demo of the FCC web page for the national broadband mapping effort, developed in one year, showing that national layers can be developed from multiple sources, if funded. NSGIC is making a large push to improve how addresses are managed by the federal government, reaching out to such agencies as the US Dept. of Housing and Urban Development and the US Postal Service. NSGIC is also exploring the creation of "Imagery for the Nation" outside of the federal government, given the current budget situation. The annual national conference is September 26 – 29, 2011, in Boise, ID.

For more information on NSGIC, visit: http://www.nsgic.org

NMGIC Member submitted Websites

NMGIC Twitter Feed : http://twitter.com/NMGIC_Inc

National Ice Center: http://www.natice.noaa.gov/products/products_on_demand.html

C-Cap Land Cover Atlas: http://www.csc.noaa.gov/ccapatlas/#

USGS Historical Topo Collection: http://nationalmap.gov/historical/

New National Map page - http://viewer.nationalmap.gov/viewer/

National Historical GIS: https://www.nhgis.org/

Ricks Favorite Albanian GIS site:http://www.gisalbania.com/hartatopografike.htm

2011 Fall Mystery Photo

This Mystery Photo was taken somewhere here in New Mexico. Can you identify the location?

Contact Rick Koehler with your answer—win a prize!

NMGIC Spring Meeting 2011: Photo Log

NMGIC Spring Meeting 2011

Do you have information about a project, new techniques, GIS and related issues, announcements, news, etc. that you would like published in the Map Legend?

Don't Forget to pay your

2011 membership dues!!!

The membership form can be found on our website

http://nmgic.com/membform.html

On the 2010 Census Geographic Products Website...

2010 Census Geographic Products main page: http://www.census.gov/geo/www/2010census/

2010 Census Tract Relationship Files: now with Population & Housing Unit counts

2010 Census & Census 2000 Substantially Changed census tract files:

http://www.census.gov/geo/www/2010census/tract_rel/tract_rel.html

Downloading Data for the 2010 Census from the new American FactFinder to Use with the TIGER/Line Shapefiles

http://www.census.gov/geo/www/tiger/wwtl/wwtl.html

Direct link to PDF document:

http://www.census.gov/geo/www/tiger/wwtl/brochures/DownloadingAFFData.pdf

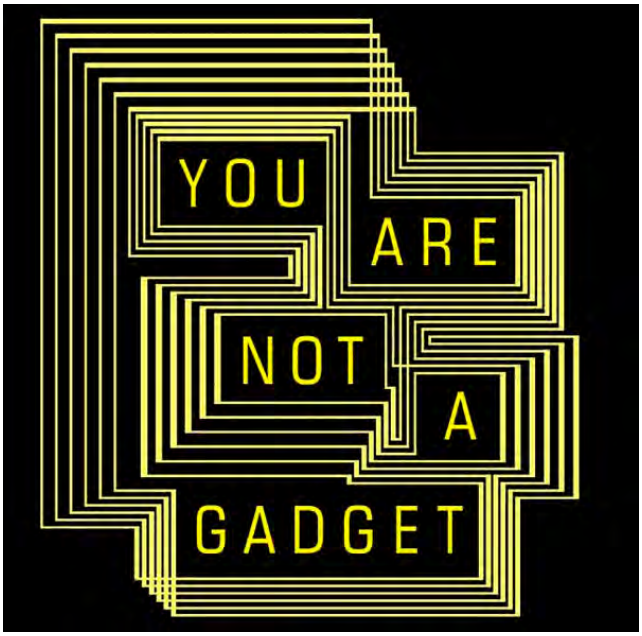
Historical State Centers of Population: 1880 - 2010:

http://www.census.gov/geo/www/2010census/centerpop2010/historical/historical_centerpop.html

If you have any questions about these or any other geographic products

please contact the Geographic Products Branch at geo.geography@census.gov or (301) 763-1128.

Book Review of "You Are Not A Gadget" by Jaron Lanier



The geospatial industry is changing, through the explosion of maps online and on our smartphones, in addition to the increase of inexpensive or even free GIS software and modeling programs. These changes are happening at rates and scales beyond what anyone might have anticipated and it is for this reason I recommend reading, "You are Not a Gadget" by Jaron Lanier. The book, named by Time Magazine and by the New York Times as one of their top books of 2010, is concerned with how our computer experience is shaping society, how the designers of that experience need to be much more thoughtful about that experience, and what we might do before things get so "locked in" that we cannot pull ourselves out of the mess Lanier feels we are designing for ourselves. My focus is on how some of Lanier's concerns might apply toward the geospatial industry, and not on his overall arguments-links to fuller reviews may be found at http://www.jaronlanier.com/gadgetwebresources.html.

Lanier's overarching premise is that we are dumbing ourselves down and simultaneously becoming far too respectful of our computers, and that, "We have to think about the digital layers we are laying down now in order to benefit future generations." (Page 20). Lanier goes on to make some recommendations for dealing with poor design, for how individuals may still make a living in the world of the mash-up, and discusses our computer experiences in light of music, the human brain, and even cephalopods. One of his suggestions is a combination of songs and dongles ("songles"); the mere mention of the latter should likely send chills up and down the spine of any long-time user of GIS.

Of the plethora of themes in Lanier's book, allow me to focus on three. The first would be that of "lock-in", whereby systems become so common and then so complex that any change to that system creates innumerable conflicts. Lanier uses examples from music (MIDI for digital representation of musical notes) and URLS (based upon UNIX) as systems that are easier to live with than to change. He notes, "The fateful, unnerving aspect of information technology is that a particular design will occasionally happen to fill a niche and, once implemented, turn out to be unalterable. It becomes a permanent fixture from then on, even though a better design might just as well have taken its place before the moment of entrenchment. A mere annoyance then explodes into a cataclysmic challenge because the raw power of computers grows exponentially. In the world of computers, this is known as Moore's Law." (Page 8). How much of GIS is now locked in, from the use of a magnifying lens as an icon for zooming in on an area of interest, to how we conduct searches for information, to how we display that information? Have we reached the apogee of what we can achieve as far as the GIS experience or have we simply limited ourselves because we are locked into doing the things the way they've always been done in the past-I'm sure our colleagues at Environmental Science Research Institute struggle with that thorny issue every day.

A second theme pertains to intellectual pursuit. I've been privy to discussions on the NMGIC board over how more and more students aren't interested in learning the intricacies of GIS but rather just enough tips and tricks to get by. Are we still intellectually engaged in GIT, or have all the big ideas passed us by? The current state of the IT economy being what it is, the author writes, "The brightest computer science students are increasingly turning away from intellectually profound aspects of the field and instead hoping to land a spot in the new royalty at the center of the cloud…" (Page 85). In fact, one Ivy League school has banned models for a social networking site for affluent golfers given so many of the best and brightest had already come up with the idea. Can the same be said for GIT: is our future pointed toward apps for iPhones and Androids and away from geology, geography, cartography, and other intellectual foundations for what we know as spatial technology?

Lastly, whatever our intellectual pursuits, will we still be able to make a living at GIT? Lanier provides extensive examples of how the "crowd" strips away individuality by fragmenting and mashing up creative works. The mash-up, then, has more value

than individual creativity. GIT is, by its own nature, geared toward “mashing-up”, as we create our maps by layering one data set over another-yet the loss of individual value remains an issue. Can an individual GIS practitioner still make money in the age of the cloud? Will credit for all the data layers in a mash-up go toward the keeper of the mash-up or the publisher of the data? If the former, will state clearinghouses be stuck serving up paid advertisements with their downloads just to survive, for, as Lanier notes, the only thing out there that is sacrosanct, for which no one is willing to “mash-up”, are Google’s ads. Certainly many GIT practitioners have moved into the IT field, more administrators of software than users of it, and some have gone so far as to move into project management of GIT and haven’t made a map in years-but they’re earning a living. Will GIT itself be a free tool, while payment and thus a means to make a living at what you’re good at, be more concerned with management of that tool, perhaps some form of help desk to deal with all of the conflicts that have become locked into our hyper-complex, oh-so-massive programs and “mashed-upped” Decision Support Systems?

Jaron Lanier, currently a Scholar at Large for Microsoft Corporation and a Scholar-in-Residence at the Center for Entrepreneurship and Technology at the University of California at Berkeley, and one of the first developers of “virtual reality”, has undertaken a careful examination of the computer experience and the potential limits that experience is imposing on us as individual people. I recommend those of the geospatial bent that it would be worth your time to consider this book in light of our own industry.

Book Review by Leland Pierce

Geospatial Companies, Vendors, Businesses and Consulting Firms:

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Reach out to the New Mexico geospatial community !

Please contact the NMGIC Board for details.

JOIN NMGIC!

Membership fee $30
Student Membership fee $15

Corporate Membership fee $250
Corporate Member Exhibit fee $100
Non-member Corp Exhibit fee $200

http://nmgic.com/membform

2011-2012 GIS Calendar of Events

GIS Day

GIS Day 2008, November 16th, 2011, "everywhere"

NSGIC

2011 Midyear Conference, Feb 27nd– March 2th, 2011, in Annapolis, Maryland

ASPRS

2012 Annual Conference March 19th-23th, 2010, in Sacramento, Ca

GITA

GIS for Oil and Gas Conference October 24-27 2011 Houston, Tx

NMGIC

Spring 2012 Workshop/Meeting, Date and Location to be determined

ESRI

International User Conference, July 11th-15th, 2011, in San Diego, California

2011 Membership Dues

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