Papers and Presentations

Year 2019

Talks (most recent first)

- First international computer network connection between China and US, Les Cottrell and Rongsheng Xu, Invited talk at the Symposium on 30 years of BES Physics held at the Institute of High Energy Physics, Beijing, P. R. China, from September 5 to 6, 2019
- Monitoring the Global Internet Performance, Les Cottrell, Internet Archive, San Francisco

Year 2018

Talks (most recent first)

- The SLAC Linear Coherent Laser Source (LCLS-II): The Next Generation World-leading Free Electron Laser, its capabilities, challenging Data transfer requirements and progress to meeting them. Les Cottrell, HPC-AI Advisory Council meeting, Stanford University, Feb 20, 2018

Year 2017

Talks (most recent first)

- SLAC Site Report Mark Foster, ESCC meeting Oct 3-5, 2017
- LCLS-II requirements meeting with ESnet and NERSC, presented to OCIO Managers, Les Cottrell, Mark Foster
- LCLS-II requirements meeting between ESnet, NERSC and SLAC, Les Cottrell, Mark Foster, presented at ESCC October 2017
- SLAC Network requirements, plans and data transfer testing, LCLS-II, ESnet, NERSC Requirements meeting SLAC August 3, 2017
- SLAC network activities, Les Cottrell, Presentation to potential employees, May 2017
- SiteReport-SLAC-LesCottrell.pptx SLAC Site report, ESCC May 2017
- Efficiently Transferring Petabytes at ~ 70Gbps, presented at ESCC LBNL 5/2/2017
- SLAC Networking, a Candidate Briefing, January 2017

Year 2016

Publications and White Papers (most recent first)

- High Performance Data Transfers for Distributed Data Intensive Sciences, Fang, Cottrell, Hanushevsky, Kroeger, Yang, SLAC-TN-16-01
- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2016 Report on Network Monitoring, compiled by Shawn McKee, Marian Babik and Les Cottrell on behalf of the working group, January 2016

Talks (most recent first)

- Survey on Site Perimeter hardening, Les Cottrell (SLAC), Surya Singh (PPNL), at ESCC meeting Nov 2016
- SLAC site report for ESCC Oct 2016 given by Les Cottrell
- Improving Data Center network perimeter security, Les Cottrell, Ben Calvert, Bernard Hecker, Jeff Schaefer, presentation to the Unix team 7/12/2016
- Tightening the SLAC network perimeter, Les Cottrell, presentation given to Unix team, 2/2/2016.
Year 2015

Publications and White Papers (most recent first)

- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2015 report on Networking, compiled by Les Cottrell, Shawn McKee on behalf of the working group, January 2015

Talks (most recent first)

- Zettar Data Transfer Node Appliance Testing, given by Les Cottrell at ESCC Sept 2015
- Confluence: Easy to use app for web content, presentation/demo for Kelly Gaffney by Les Cottrell 9/17/2015
- IP Address Expiration, Kent Reuber, Yee Ting Li, Les Cottrell, Presented by Les Cottrell to System Admins, May 12, 2015
- Ultra-high Performance Parallel Big Data Transfer Software for Data-intensive Science, presentation by Chin Feng of Zettar at SLAC 3/4/2015 (only available to SLAC users)

Year 2014

Publications and White Papers (most recent first)

- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2014 report on Networking, compiled by Les Cottrell, Shawn McKee and Raja Asad on behalf of the working group, January 2014.

Talks (most recent first)

- Network Highlights, presentation for PPA & SSRL, Nov 2014
- Replacement of database of Internet records at SLAC, presentation at Plan of Week
- Introducing NetDB: Stanford's Open Source IP management system, Kent Reuber, October 2012
- PingER Project, presentation to Dave MacFarlane, associate Lab Director for PPA, SLAC, March 2014
- Monitoring the World's Networks, Les Cottrell et. al., presented by Prof Harvey Newman at the ICFA meeting CERN February 2014.
- Secure Wireless at SLAC, Guillaume Cessieux, presentation to the OCIO Operations teams,

Year 2013

Publications and White Papers (most recent first)

- Africa 'leapfrogs' to wider Internet access. Al Jazeera, Sept 2, 2013. Also appeared on SlashDot Front Page, Sept 3, 2013, referenced in SLAC Today as “SLAC expert weighs in on Internet access in Africa “, Sept 6, 2013
- PingER project data on the health of Africa’s Internet networks, Africa, April 15, 2013.
- Why continuous investment and improvement in African ICT infrastructure is important, contributed by Les Cottrell to EGy Africa News, Number4, February, 2013.
- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2013 report on Networking, compiled by Les Cottrell, Shawn McKee and Anjum Naveed on behalf of the working group, January 2013.

Talks (most recent first)

- Silicon Valley and Stanford, by Les Cottrell, Universiti Technologi Malaysia, Johor Bahru, Malaysia, June 27th, 2013
- PingER: Research Opportunities and Trends, by Les Cottrell, PingER workshop , Universiti Malaya, Kuala Lumpur, Malaysia, June 26, 2013
- PingER: Navigating the Web Site and Mining the Data, by Les Cottrell, PingER workshop , Universiti Malaya, Kuala Lumpur, Malaysia, June 24th, 2013
Year 2012

Publications and White Papers (most recent first)

- **PingER Workshop Brochure**, UNIMAS, Malaysia Dec 13-14, 2012
- **Submission to the Silicon Valley Tech Awards 2012, Nov 2012.**
- **ICSU Grant Progress Report**, see section 3 on PingER.
- **m-Learning in Classrooms and Research**, by Les Cottrell, June 2012. Contribution to booklet released under the Creative Commons. The booklet is to promote the open book on **Mobile Science** (m-science)
- **PingER status report Jun 2012**, for eGYAfrica
- **International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2012 Report on Networking**, compiled by Les Cottrell, Shawn McKee and Amber Zeb on behalf of the working group, January 2012.

Talks (most recent first)

- **PingER: Opportunities**, Les Cottrell, University of Malaya, Dec 2013
- **PingER Installation**, Kashif Satar, notes from hands on session at the PingER Workshop at the University of Malaysia in Sarawak, December 13-17, 2012
- **PingER: Navigating the web site and mining the data**, Les Cottrell at the PingER Workshop at the University of Malaysia in Sarawak, December 13-17, 2012
- **PingER in Pakistan**, Kashif Satar, at the PingER Workshop at the University of Malaysia in Sarawak, December 13-17, 2012
- **PingER: Actively measuring the worldwide Internet’s end-to-end performance** Extended version, by Les Cottrell at the PingER Workshop at the University of Malaysia in Sarawak, December 13-17, 2012
- **PingER: Actively measuring the worldwide Internet’s end-to-end performance**, Anjum Navid, at the Malaysia National Research and Education (MYREN) meeting, Kuala Lumpur, Malaysia, Dec 12, 2012.
- **PingER: Actively measuring the worldwide Internet’s end-to-end performance**, by Les Cottrell at the Malaysia National Research and Education (MYREN) meeting, Kuala Lumpur, Malaysia, Dec 12, 2012.
- **Visiting Dignitaries**, Les Cottrell, presentation to CIO 8/22/2012.
- **Network Roadmap**, presented by Antonio Ceseracciu to OCIO management.
- **PingER: getting a lot from a simple utility**, Les Cottrell, Summer 2012 Joint Techs, Stanford CA, July 16, 2012
- **SLAC Networking July 2012**, Les Cottrell, presentation for the SLAC CIO, July 2012
- **SLAC Telecommunications July 2012**, Les Cottrell, presentation for the SLAC CIO, July 2012
- **MOU between SLAC & the University of Malaysia in Sarawak (UNIMAS)**, presentation by Les Cottrell to SLAC CIO, June 15, 2012.
- **SLAC Security Compromise - 1998**, prepared by Les Cottrell for ESCC

Year 2011

Publications and White Papers (most recent first)

International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2011 Report on Networking, compiled by Les Cottrell, Shawn McKee and Zafar Gilani on behalf of the working group, January 2011.

Talks (most recent first)

- **Networking Retrospective** presented by Les Cottrell at the 20 year HEPix Anniversary Meeting, Vancouver, Oct 24-28, 2011.
- **Table of Contents of Lectures by Les Cottrell at Ecole SIG on Nouvelles Technologies** Democratic Republic Congo, 12-17 Septembre, Organisee par l’Universite de Kinshasa
  - The Internet: where did it come from, what are the challenges (English, French).
  - Internet, how is it performing (English, French).
  - Cell phones, how do they work (English, French).
  - Smartphones and other mobile computers (English, French).
  - Network Problem Diagnosis for non-networkers.
  - PingER Case Studies.
- **IPv6 at SLAC Les Cottrell, August 2011**
- **SLAC Remote Access VPN over SSL** Dan Sneddon Aug 2011.
Year 2010

Publications and White Papers (Most recent first)

- Evaluation of IP Geolocation Algorithms on PingER and PlanetLab Infrastructures, by Fida Gilani et. al. submitted to IEEE INFOCOM 2011 July 30, 2010, also SLAC-PUB-15956

Talks (Most recent first)

- African Internet Performance, Fibres and the Soccer World Cup, prepared by Les Cottrell, presented at the eGYAfrica conference, Accra, November 2010.
- China Internet Connection from the Opening Session of China 2.0: The Rise of a Digital Superpower, Beijing and Stanford, October 18-19, 2010.
- Monitoring the World's Networks, Harvey Newman and Les Cottrell, Slides prepared for CHEP10, in Taipei, Taiwan October 2010
- Collaborative DOE Network Monitoring, Yee-Ting Li, DoE Annual Review, LBNL, October 5-6 2010.
- African Internet Performance, Fibres and the Soccer World Cup, Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
- First Internet Link between SLAC (US) and IHEP (China), Les Cottrell, Xu Rong Sheng, presentation at China 2.0 The Rise of a Digital Superpower, Beijing and Stanford, Oct 18-19, 2010. Also see video re-tracing how China first connected to the Internet in 1994 and China's Internet Connection.
- Syllabus of Egyptian lectures
- Internet History and needs, Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
- How is the Internet performing, Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
- Smart Phones and other mobile computers, Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
- Network Measurements, Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
- Geolocation, Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
- Improving SLAC's AT&T cell phone coverage, Les Cottrell and Jim Healy, presented at POW meeting 5/17/10.

Year 2009

Publications and White Papers (Most recent first)

- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2009 Report compiled by Les Cottrell and Umar Kalim on behalf of the working group, January 2009.

Talks (Most recent first)


African Internet Performance, Fibre and the Soccer World Cup, Les Cottrell & Umar Kalim, Internet2 Africa Regional Interest Group meeting, Monday 5th October 2009, San Antonio, Texas.

New E. Coast of Africa Fibre Les Cottrell and Umar Kalim, presentation to the International Committee on Future Accelerators, August 2009.

eGY-Africa: addressing the digital divide for science in Africa presented Charles Barton, Monique Petitdidier and Les Cottrell, presented in Moscow, at the eGY international conference in Pereslavl-Zalessky, June 3-6, 2009 and CODATA TG meeting “eGY Earth and Space Science Data Interoperability” June 1009.


Internet Performance to Africa and the Rest of the World (long version), presented by Les Cottrell at the International Center for Theoretical Physics, Trieste April 24th , 2009.

Internet Performance to Africa and the Rest of the World, presented by Les Cottrell at the European Geosciences Union General Assembly session on African Cyberinfrastructures, Vienna, Austria April 22, 2009.

eGY-Africa: addressing the digital divide for science in Africa, Charles Barton, Australian National University, Monique Petitdidier, CETF/CNRS, France, Les Cottrell, Stanford Linear Accelerator Center, USA, Peter Fox, RPI, Troy, USA, presented at the European Geosciences Union General Assembly session on African Cyberinfrastructures, Vienna, Austria April 22, 2009.

Significance of the PingER project and its application to Pakistan Education Research Network (PERN), presented by Umar Kalim to PERN - Special Interests Group on Network Monitoring, 8th April, 2009, Higher Education Commission of Pakistan, Islamabad.

Year 2008

Publications and White Papers (Most recent first)


Talks (Most recent first)


- SLAC Network Architecture, by Gary Buhrmaster for the ST&E Review.

Year 2007

Publications and White Papers (Most recent first)

- Bridging the Digital Divide, by Phil Charles of the South Africa Astronomy Observatory, SAAO Publication No. 2308 = Quest article
- Network Weather Forecasting for Management and Analysis of Global Grid and Internet End-to-end (MAGGIE) Performance, thesis of Fareena Saqib
- TULIP (Trilateration Utility for Locating IP hosts) - A delay based solution
- ICFA SCIC 2008 Report
Talks (Most recent first)

- Locating Hosts by TULIP, presented by by Les Cottrell at the Internet2 Fall members Meeting, San Diego October 8, 2007.
- TULIP (Trilateration Utility for Locating IP hosts), presented by Faran Javed
- MAGGIE NIIT-SLAC On Going projects, presented by Adnan Iqbal
- Next Generation Network Monitoring, by Les Cottrell
- PingER project, perfSONAR, proposal of NIIT, SLAC and PERN for HEC, presented by Les Cottrell to Anwar Anjad head of PERN, Pakistan, March 16, 2007
- Visualizing the Digital Divide from an Internet View and Some Challenges, prepared by Les Cottrell, Umar Kalim, Shahryar Khan and Akbar Mehdi for the COMSATS University, Islamabad, Pakistan
- Next Generation Network Monitoring for Pakistan, A Proposal, presented by Les Cottrell and Arshad Ali to Prof. Dr. Atta-ur-Rehman, chairman of the Higher Education Commission, Pakistan
- The Digital Divide, by Les Cottrell, Shahryar Khan & Akbar Mehdi at the Qaid-e-Azam University Islamabad, Pakistan, March 2007
- Stanford University, SLAC and NIIT, by Les Cottrell at the NIIT Convocation dinner March 9, 2007
- Testing TCP in the WAN presented by Yee-Ting Li, Microsoft TCP Workshop, 5th-6th February 2007, Microsoft, Redmond, WA.

Photos

- NIIT 2007 Convocation
- APS April17, 2007
- Umar's visit to San Francisco and Muir Woods
- Umar's visit to Monterey and San Juan Bautista
- Softec 2007 Award

Previous Papers and Presentations

- 2006
- 2005
- 2004
- 2003
- 2002
- 2001
- 2000
- 1996-1999
- 1995 and earlier

There are directories at /afs/slac/www/grp/scs/net/papers and /afs/slac/www/grp/scs/net/talks which may be useful.

Also Les Cottrell's papers and talks are useful.