

Richmond, VA USA

IPAC'15 Technical Debrief

Padova, Italy

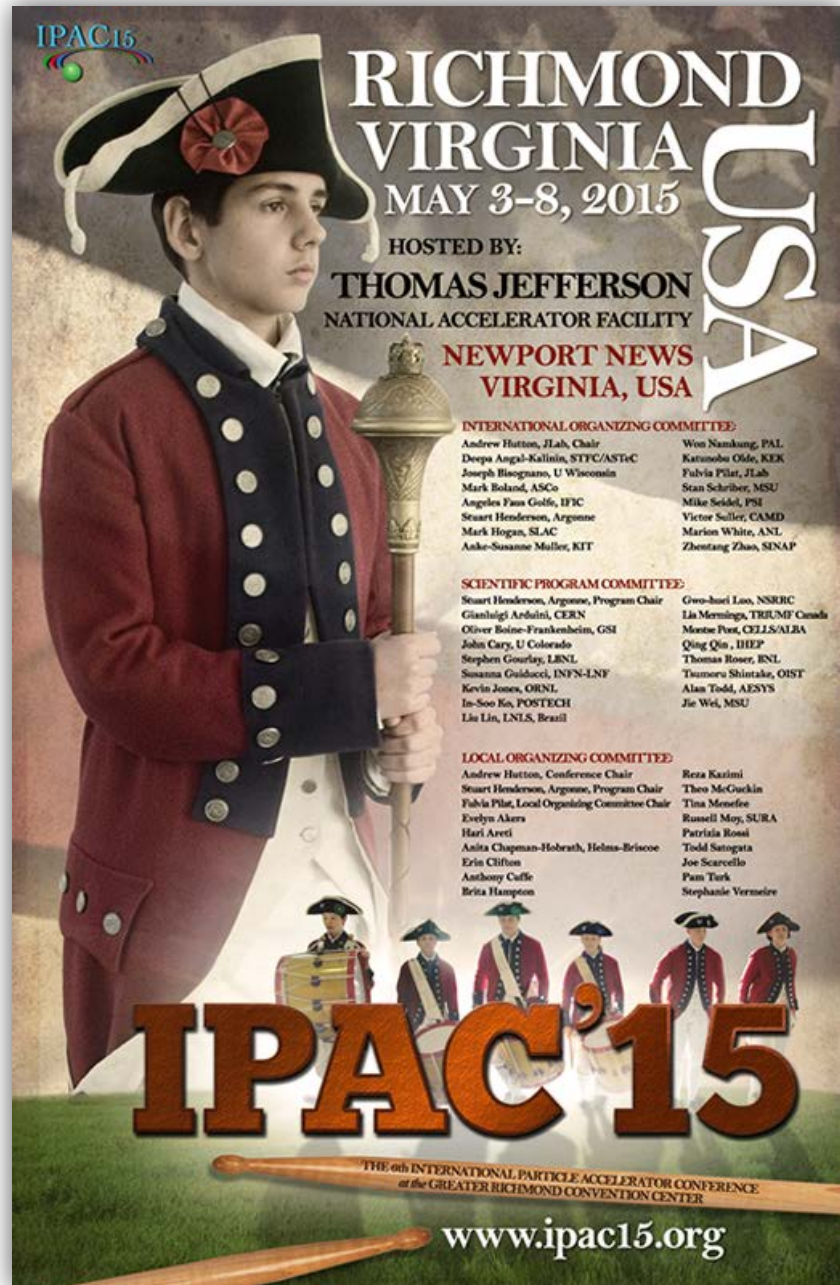
2015 JACoW Team Meeting

Anthony Cuffe



Overview

- ⊙ Credits
- ⊙ Setup/Hardware
 - Overview
 - Proceedings Office
 - Author's Reception
 - Speaker Preparation
 - Auditoriums
 - Registration
 - Business Office
 - Internet/Paper Café
- ⊙ Networking
- ⊙ Software
- ⊙ Space Planning
- ⊙ Ergonomics
- ⊙ Usage Statistics
- ⊙ What Went Right/Wrong?
- ⊙ Advice for Future Planners
- ⊙ More Information
- ⊙ Q & A



IPAC'15

RICHMOND VIRGINIA

MAY 3-8, 2015

HOSTED BY:
THOMAS JEFFERSON
NATIONAL ACCELERATOR FACILITY

NEWPORT NEWS VIRGINIA, USA

USA

INTERNATIONAL ORGANIZING COMMITTEE:

Andrew Hutton, JLab, Chair	Woo Namkung, PAL
Deepa Angal-Kalinin, STFC/ASTeC	Katsuhiko Oide, KEK
Joseph Bionigiano, U Wisconsin	Fabrizia Pilat, JLab
Mark Boland, ASCo	Stan Schreiber, MSU
Angelika Faus Goffe, IFIC	Mike Seidel, PSI
Stuart Henderson, Argonne	Victor Suller, CAMD
Mark Hogan, SLAC	Marion White, ANL
Anke-Susanne Muller, KIT	Zhentang Zhao, SINAP

SCIENTIFIC PROGRAM COMMITTEE:

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Gianluigi Arduini, CERN	Lia Merminga, TRIUMF Canada
Oliver Boine-Frankenheim, GSI	Monroe Post, CELLS/ALBA
John Cary, U Colorado	Qing Qin, IHEP
Stephen Gourlay, LBNL	Thomas Rorer, BNL
Susanna Golducci, INFN-LNF	Tomoru Shintake, OIST
Kevin Jones, ORNL	Alan Todd, AESSYS
In-Soo Ko, POSTECH	Jie Wei, MSU
Liu Lin, LNL, Brazil	

LOCAL ORGANIZING COMMITTEE:

Andrew Hutton, Conference Chair	Reza Kazimi
Stuart Henderson, Argonne, Program Chair	Theo McGuckin
Fabrizia Pilat, Local Organizing Committee Chair	Tina Menefee
Evelyn Akers	Russell Moy, SURF
Hari Areti	Patricia Rossi
Anita Chapman-Hobbs, Helms-Briscoe	Todd Satogata
Eric Clifton	Joe Scarcello
Anthony Cuffe	Pam Turk
Brian Hampton	Stephanie Vermeire

IPAC'15

THE 15th INTERNATIONAL PARTICLE ACCELERATOR CONFERENCE
at the GREATER RICHMOND CONVENTION CENTER

www.ipac15.org

Special Thanks

IPAC'15 IT Team

Theo McGuckin

Erik Werlau

Evelyn Akers

Johan Olander

Takashi Kosuge

Dong Eon Kim

Kyung-Sook Kim



JACoW Developers

Raphael Muller

Ivan Andrian

Volker Schaa

Jan Chrin

Stefano Deiuri

Matt Arena



Hardware - Overview

- ⊙ PC Workstations (~40) (\$1200)
- ⊙ Mac Mini Workstations (2) (\$600)
- ⊙ Backup/CIFs Server (1) (\$1200)
 - Editor's Workstation with extra drive (500GB)
- ⊙ 24" (1920x1200) Monitors (42) (\$240)
- ⊙ Presenter Laptops (6) (\$1800)
- ⊙ General Purpose Laptops (10) (\$300)
 - Timers, Dotting Boards and Loaners
- ⊙ MacBook Laptops (6) (\$285)
- ⊙ 8-Port Network Switches (16) (\$800/\$80)
 - Cisco 2960-CG (Unmanaged Mode)
 - NetGear Gigabit Pro Series
- ⊙ Printers (5)
 - HP LaserJet Color CP425DN (2) (\$650)
 - Brother Color Multi-Function 9840N (3) (\$495)



- ⊙ Dot Boards (3) (\$875 Total)
 - 40" Sony Bravia (\$575)
 - ThinkPad E550 Laptops (\$300)
- ⌘ Spares
 - 24" Monitors (2 – Not Enough!)
 - Editor's Workstation (2)
 - Presenter Laptops (1)
 - Timer Laptops (1)
 - Mac Laptops (1)
 - Toner Cartridges for Printer

Hardware - Summary

Venue	Windows PC		Macintosh PC		Monitors		Printers	
	Desktop Dell T1700	Laptop Dell M4800	Mac Mini	MacBook Pro	24" Dell U2412M	40" TV Sony Bravia	Multi-Function Brother 9840N	Postscript HP CP4525DN
Proceedings Office	22		2		21			2
Author Reception	4				4		1	
Speaker Preparation		4		2				
Internet Café	10				10			
Auditoriums (A,B,C)		3		3	3	3		
Business Office	3				3		1	
IPAC'15 Office	1				1		1	
Registration		1						
Dotting Boards		3				3		
Timers		3						
Spares	2	3		1	2			
Total	42	17	2	6	44	6	3	2

Proceedings Office

☉ Editor's Windows Workstation (20)

- Dell Precision T1700, Intel Xeon Quad Core 3.5Ghz
- 8 GB 1600Mhz RAM
- 512MB NVIDIA Quadro® NVS 310
- 256 GB Crucial MX200 SSD
- 24" Dell Ultrasharp U2412M (1920x1200)

☉ Editor's Mac Workstation (2)

- Mac Mini (2015) w/8Gb Ram
- 24" Dell UltraSharp U2412M (1920x1200)

☉ Printers (2)

- HP Color LaserJet CP4525DN

☉ 8 Port Network Switches (6)

- Cisco 2960-CG (Unmanaged Mode)

☉ Backup Server/CIFs File Server

- Editor's Workstation with 500GB drive
- CentOS 6 w/Samba

☉ Spares

- 24" Monitor (0)
- Editor's Workstation (2)

☉ Staff Wi-Fi



Proceedings Office



Proceedings Office



Author's Reception

⦿ Windows Workstation (4)

- Dell Precision T1700, Intel Xeon Quad Core 3.5Ghz
- 24" Dell Ultrasharp U2412M (1920x1200)
- Exact same setup as Proceedings Office

⦿ 8 Port Network Switch (1)

- Cisco 2960-CG (Unmanaged Mode)

⦿ Multi-Function Printer (1)

- Brother Multi-Function 9840N

⦿ Staff Wi-Fi



Author's Reception



Speaker Preparation

⦿ Windows Presenter Laptop (4)

- Dell M4800 Intel Quad Core i7 2.9Ghz
- 16GB 1600Mhz RAM\
- 15,6" TFT (1920x1080) Display
- DP, VGA and HDMI Output



⦿ Mac Presenter Laptop (2)

- 15" 2014 Macbook Pro



⦿ General Purpose Laptop (3)

- Lenovo ThinkPad E550 i7 w/8Gb
- Setup for Timers, Dot Boards and Loaners

⦿ 8-Port Network Switches (2)

⦿ Spares

- Macbook Pro (1)
- Dell M4800 (1)
- Lenovo ThinkPad (1)

⦿ Staff WiFi



Speaker Preparation



Auditoriums - IT

⦿ Windows Presenter Laptop (3)

- Dell M4800 Intel Quad Core i7 2.9Ghz
- 16GB 1600Mhz RAM\
- 15,6" TFT (1920x1080) Display
- DP, VGA and HDMI Output
- Exact same as used in Speaker Preparation!

⦿ Mac Presenter Laptop (1)

- 15" Macbook 2014 Pro
- Exact same as used in Speaker Preparation!

⦿ Timer Laptop (3)

- JACoW developed java timer application
- www.jacow.org >> Tools >> Software
- Auto start Firefox with local copy
- Required configuration in the source code.
- No network connection necessary !



Auditoriums



Auditoriums – A/V

⦿ Presenter Monitors (3)

- Podium Monitor for Speaker
- 24" Dell Ultrasharp U2412M (1920x1200)

⦿ Stage/Presentation Monitor (3)

- Stage Monitor for Speaker and Chairman
- 40" Sony Bravia (1080p) w/Floor Stand



Internet/Paper Café

⦿ Windows Kiosks (12)

- Dell Precision T1700
- 24" Dell UltraSharp U2412M (1920x1200)
- Used "Deep Freeze" by Faronics to create Windows Kiosks
- Exact same setup as Proceedings Office



⦿ Laptop Spaces (4 Tables)

⦿ 8-Port Network Switches (2)

⦿ Delegate Wi-Fi



Internet/Paper Café



Registration

⦿ Kiosk Laptop

- Lenovo ThinkPad E550
- Registration/Profile Updates
- *Must be Hard-Wired!*

⦿ Delegate Wi-Fi



Business Offices

◎ IPAC'15 Business Office

- Registration Support
- On-Site Payment and Registration
- Badge and Receipt Prints
- Staff Support

◎ PCO Business Office

◎ Windows Workstation (3)

- Dell Precision T1700
- 24" Dell Ultrasharp U2412M (1920x1200)
- Exact same setup as Proceedings Office

◎ 8-Port Network Switches (2)

◎ Multi-Function Printer (2)

- Brother Multi-Function 9840N
- Very Well Utilized!

◎ Staff Wi-Fi



Staff Office

⦿ Windows Workstation (1)

- Dell Precision T1700
- 24" Dell Ultrasharp U2412M (1920x1200)
- Exact same setup as Proceedings Office

⦿ Multi-Function Printer (1)

- Brother Multi-Function 9840N

⦿ Staff and Delegate Wi-Fi

⦿ Stand Up Meetings

⦿ Staff Support



Around the Venue

◎ **Dot Boards (3)**

- 40" Sony Bravia w/stand
- ThinkPad E550 Laptops
- New CSS version (Stefano)



◎ **Charging Stations (2)**

- Rented from A/V Company
- Expensive (~\$2500/ea)
- Paid for by Sponsorship

Networking

⦿ 2 Isolated and Dedicated Networks

- Staff Segment (40Mbs Bandwidth)
- Delegate Segment (150Mbs Bandwidth)
- Isolation between networks for security and performance



⦿ Staff Network (40Mbs)

- Staff Offices and Staff Wi-Fi
- Multiple hard wire drops in each occupied location
- Giga-Bit Switches (12) for distribution
- Static and DHCP Addresses

⦿ Delegate Network (150Mbs)

- Delegate Wi-Fi and Internet Café

⦿ Costs for Network Drops and Wireless – **\$45,000**

- *Be prepared to state and re-state your requirements!*
- *Months of negotiation from initial \$112,000!*



Networking



Networking - Wireless

⦿ High Density Xirrus (XR-2436) Arrays

- Access Arrays for high volume areas (3)
 - *Exhibition Hall*
 - *Break Area Outside of Sessions*
 - *Registration Area/Poster Sessions*
- Each Array capable of hosting 750-1500 simultaneous devices (we assumed ~750).
- Mobile for easy coverage tuning

⦿ Cisco Aironet Access Points

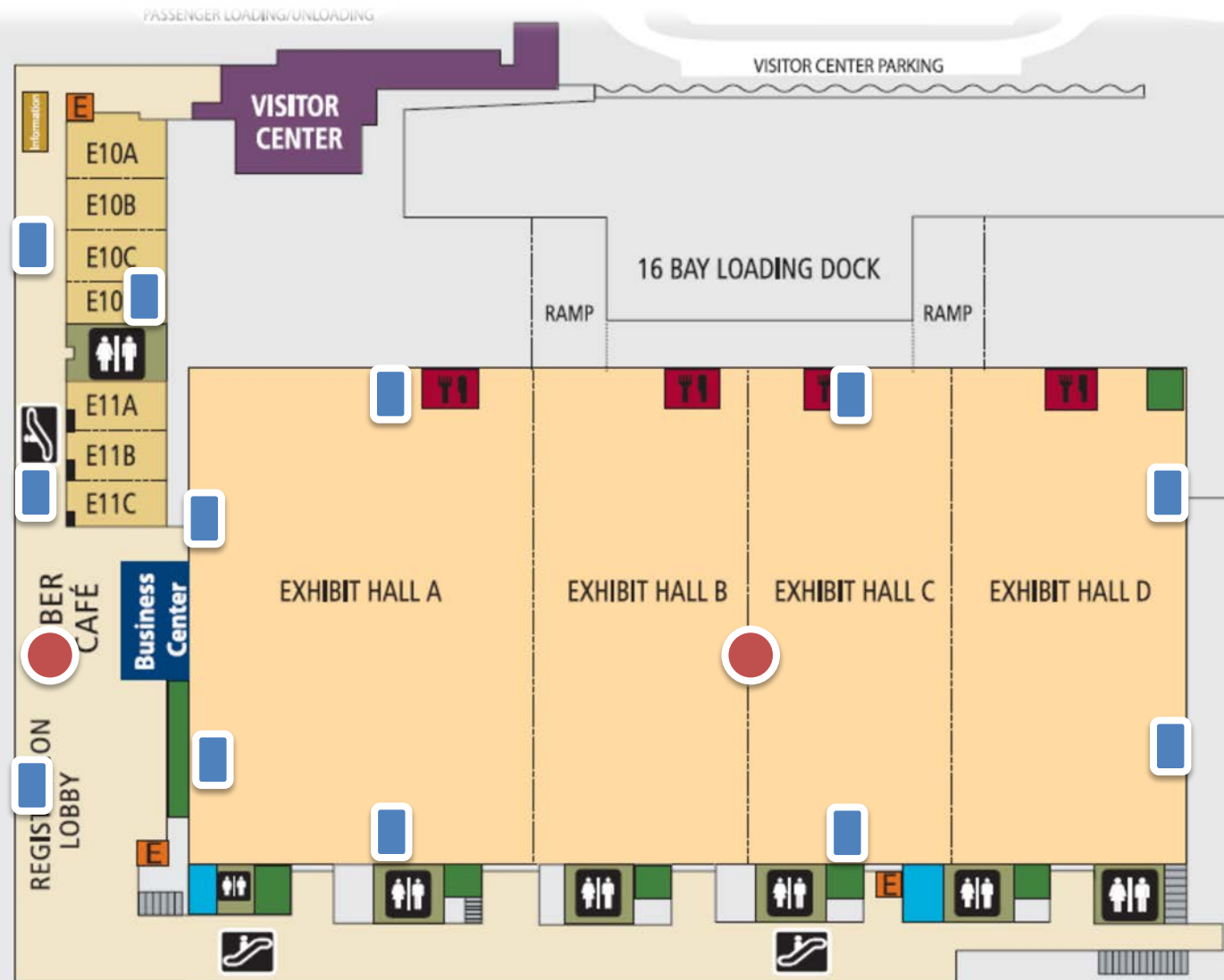
- Wireless Access Points used throughout the venue for low volume areas (30+)
- Each AP capable of supporting 30-40 simultaneous devices
- Portable access points for quick coverage fixes

⦿ Size Planning

- Requirement for between 2500 and 3000 Devices
- Assumed 1500-2000 Delegates



Wireless - 1st Floor (Exhibition/Registration)



Xirrus WAA (XR-2436)



Cisco WAP (Aironet)

Wireless - 2st Floor (Break Area)



Disabled



Xirrus WAA (XR-2436)



Cisco WAP (Aironet)

Software – Proceedings Office

⦿ Editor's Windows Workstations

- JACoW automated bundle utilized for initial image(*Raphael*)
 - **Software List:** <http://www.jacow.org/index.php?n=Editors.RecommendedSoftware>
- Manual configuration of PitStop, Acrobat Pro and MsWord
 - **Procedures:** <http://www.jacow.org/index.php?n=Editors.SoftwareSettings>
- All configuration done with a created user (*not the default Admin account!*) in order to preserve them after “sysprep.”
- Master system was made unique using Microsoft's OEM tool “sysprep.”
- Systems were cloned and replicated using a disk replicator (\$450) and Clonezilla (Free).

⦿ Editor's Mac Workstations

- Manual configuration of PitStop, Acrobat Pro and MsWord
 - **Procedures:** <http://www.jacow.org/index.php?n=Editors.SoftwareSettings>
 - Took around (20) minutes per workstation

⦿ Red/Yellow/Green Dot Plugin (*Ivan*)

- Plugin to tag papers in lieu of stickers
- Manual install in Acrobat Plugins
- Saved time, money and looked pretty



Software – Speaker Preparation and Auditoriums

⦿ Windows and MacBook Pro Laptops – *All identically configured!*

○ JACoW automated bundle utilized for initial install (*Raphael*)

- **Software List:** <http://www.jacow.org/index.php?n=Editors.RecommendedSoftware>

○ Manual configuration of other software using **Ninite** (*ninite.com*)

- Ninite – installs or updates multiple apps at once – ninite.com

1. Click all the apps you want

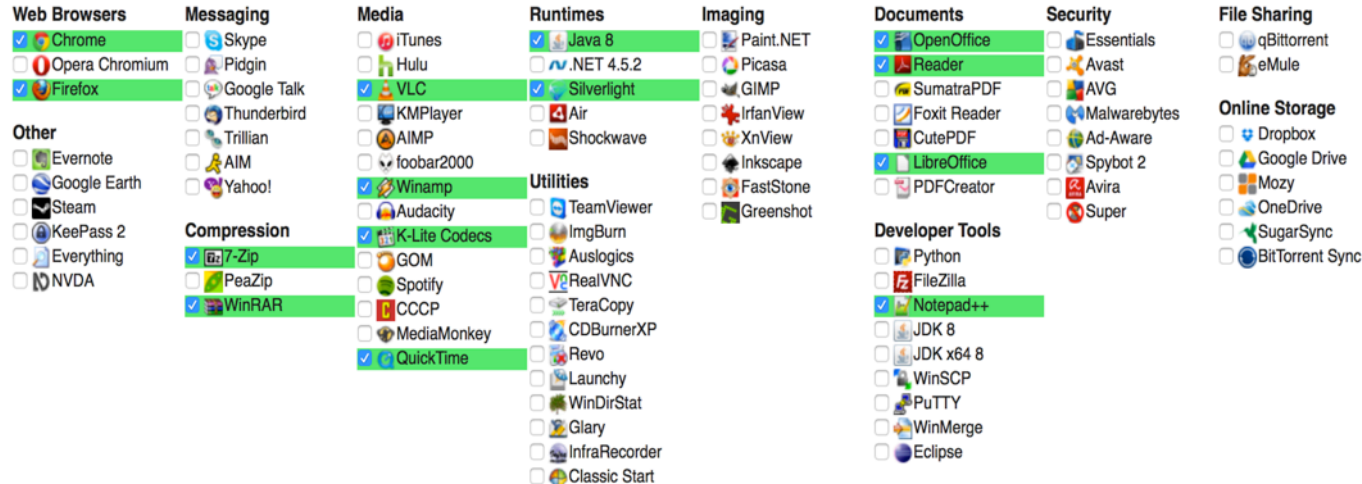
You can learn more about a program by hovering over it.

2. Click Get Installer and run it

Ninite installs apps for you in the background. No clicking next. We say NO to toolbars or other junk.

3. Run it again later

Your installer will update apps to the latest versions. If something is up-to-date we'll skip it.



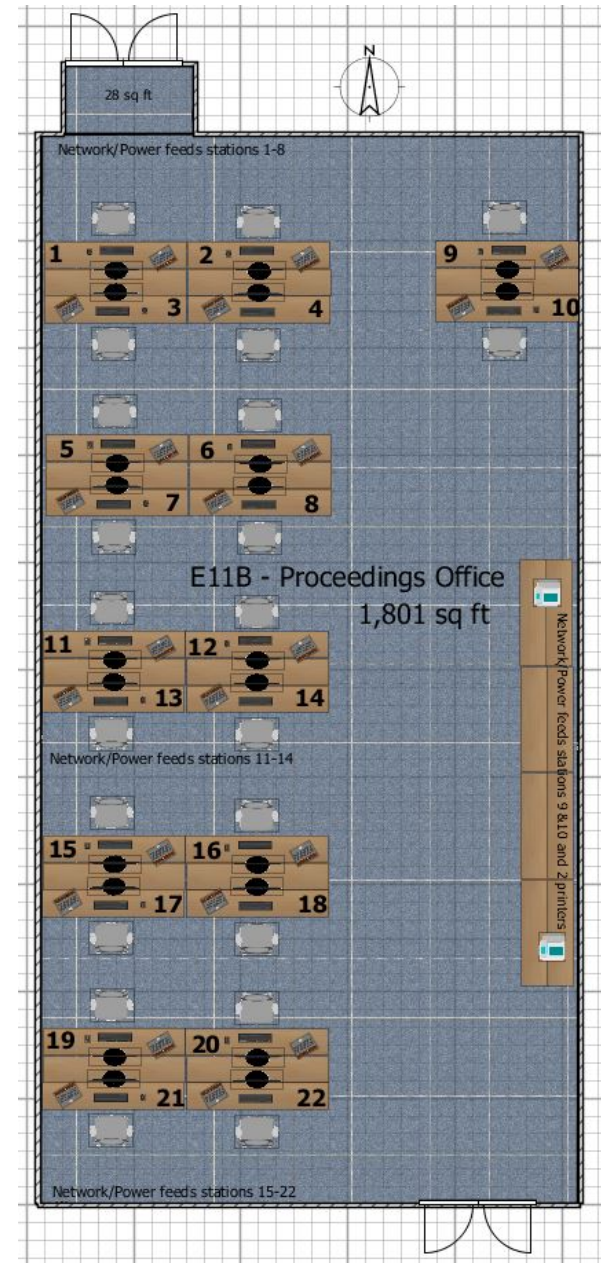
Software – Kiosks for Internet Café

- ⦿ Windows Kiosks created using “*Deep Freeze*” by Faronics
 - Create a “Frozen” configuration for use in public areas
 - System is rebooted and reset at each logout
 - Central Management Console
 - Systems can easily be unfrozen/refrozen quick for tweaks
 - 30-day Demo
 - Worked very well to provide a fully-featured kiosk.
- ⦿ Various Linux based kiosks were tested but all had issues.
- ⦿ Microsoft’s kiosk modes were likewise tested but had serious shortcomings.



Space Planning

- ⦿ Layouts created for all IT spaces (*Theo McGuckin*)
- ⦿ Layouts created with **Sweet Home 3D** (*sh3d*)
 - Free interior design application
 - <https://www.sweethome3d.com>
- ⦿ Spaces were perfectly laid out and provided plenty of space for editors.
- ⦿ Helped to avoid surprises – everything fit!



Space Planning



Ergonomics Proceedings Office and Author's Reception

⦿ Workspaces

- Deep and wide enough to work with printed papers.
- Extra Space for Laptops and other gear.

⦿ Chairs

- Ergonomic and comfortable but more adjustable chairs would have been better.



⦿ Lighting

- Could have been better. Natural light from windows would have been nice.
- Lights were adjusted to try to make workspaces as bright as possible.

Usage Statistics

⦿ Paper Consumption: 10,000+

- Proceedings Office: ~9,000 pages
- Business Office : ~1,000 pages
- Author Reception: ~200 pages
- Multiple Toner Cartridge Replacements

⦿ Papers/Talks Processed: 1300+

⦿ Network Bandwidth:

- Staff Network (40Mbps): average bandwidth usage of 15Mbps with frequent peaks above 30 Mbps.
- Delegate Network (150Mbps): average bandwidth usage of 22Mbps with frequent peaks above 81Mbps.

⦿ Devices on Wireless

- 1443 registered devices.
- 400-550 average devices per with a maximum of 659.

Cost Summary - Major Items

- ◎ Networking/Wireless ***\$45,000***
- ◎ Audio Visual ***\$60,000***
- ◎ Technical Rentals ***\$16,000***

- ◎ Equipment Purchased by Lab and Loaned to Conference *(No cost to Conference)*
 - Mass Workstation Purchase ***\$81,000***
 - Mass Laptop Purchase ***\$14,000***

What went right?

- ◎ Staff clearly learned from lessons of the past.
- ◎ Purchasing instead of renting worked very well.
 - *Chosen hardware was very good*
 - *Allowed plenty of time for configuration*
 - *Spares were readily available (except monitors and power cords!).*
- ◎ Systems were installed and nearly flawless before Editors arrived.
 - *Systems were patched and configured prior to cloning.*
 - *Very little configuration at the venue was necessary.*
 - *Editing began before most editors arrived.*
 - *L.O.C. Admins were available and quick to respond to anything.*
- ◎ Network Bandwidth was very good (well worth the effort)!
- ◎ Wireless Networking was nearly flawless!

What could have gone better?

- ⦿ Extra microphones
- ⦿ Extra power strips (PDUs)
- ⦿ Extra extension cords
- ⦿ Extra monitors
 - Some people want two
 - A/V requirements always need more (*timers*).
- ⦿ IT/AV needs for breakout meetings were not well communicated beforehand to the IT planners.

Advice for Future Planners

- ⊙ Learn from Lessons from the past!
 - *Send as many people to as many conferences as you can.*
- ⊙ Be Flexible!
 - *Don't think the requirements of your conference will exactly the same as the last one. (Printers?)*
- ⊙ Bring extra:
 - *Power strips*
 - *Extension Cords*
 - *Monitors*
 - *Stock up on sleep*
- ⊙ Plan on spending lots and lots of time with the network staff beforehand.
- ⊙ Having people with experience in Speaker Prep made it run like clockwork. Send a Speaker Manager to at least one conference for training.
- ⊙ A/V and IT should perhaps be separate people. It is a bit too much.
- ⊙ Draft intelligent dedicated people as early in the process as you can. You can't do it alone. Bring as many as they will allow you.

Advice for Future Planners

☉ *Don't expect to get anything done at your regular job starting about a month before the conference!*



Advice for Future Planners

☉ *You will do a lot more than IT!*



More Information

◎ IT Documentation Bundle from IPAC'15

IPAC15_IT.zip (uploaded as supplemental file to SPMS)

◎ Previous IT Reports

<http://www.jacow.org/index.php?n=Editors.ITReportsPreviousExperiences>

◎ Recommended Software List

<http://www.jacow.org/index.php?n=Editors.RecommendedSoftware>

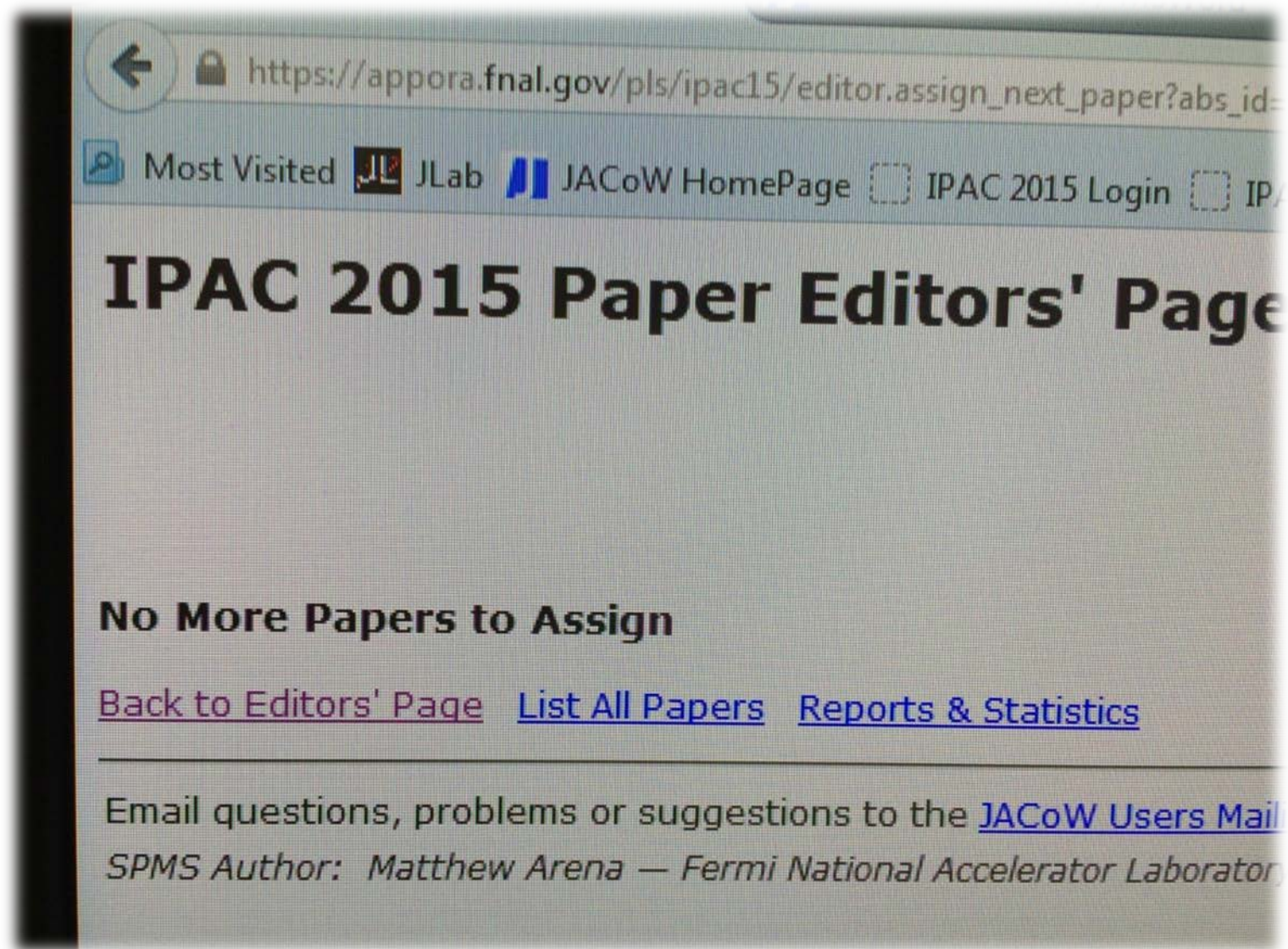
◎ Proceedings Office: Recommended Hardware

<http://www.jacow.org/index.php?n=Editors.RecommendedHardware>

◎ JACoW Information for Organizers

<http://www.jacow.org/index.php?n=Editors.HomePage>

Q & A







Special Events - Women in Science



Special Events - Women in Science

- ⊙ Special Event with Complicated Logistics
 - *Planning and Testing was a Must!*
- ⊙ Panel Format with 9 Participants
- ⊙ 3 Remote Participants
 - *China*
 - *Korea*
 - *Switzerland*
- ⊙ Two Separate Cameras
 - *One Stationary*
 - *Second with an active camera person*
- ⊙ Used Bluejeans for Teleconference
- ⊙ Delegate Network Segment (150Mbs)

