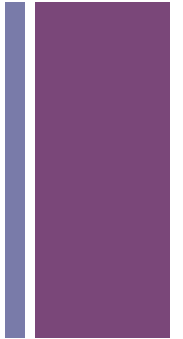




Conference IT Systems

JACoW Team Meeting 2013
Vincent G. Mitts – 12.12.2013
LSU CAMD

+ Conference IT Systems



- I. Network
 - Bandwidth considerations
 - Network management
 - Wireless

- II. Computers
 - Rental services
 - Recommended specifications: desktops, laptops, servers, and printers
 - Preparation and Setting Up

- III. Software
 - JACoW recommended software list
 - JACoW available licenses
 - Software installers
 - Disk imaging/cloning
 - Data Backups

+ I. Network

Bandwidth considerations:

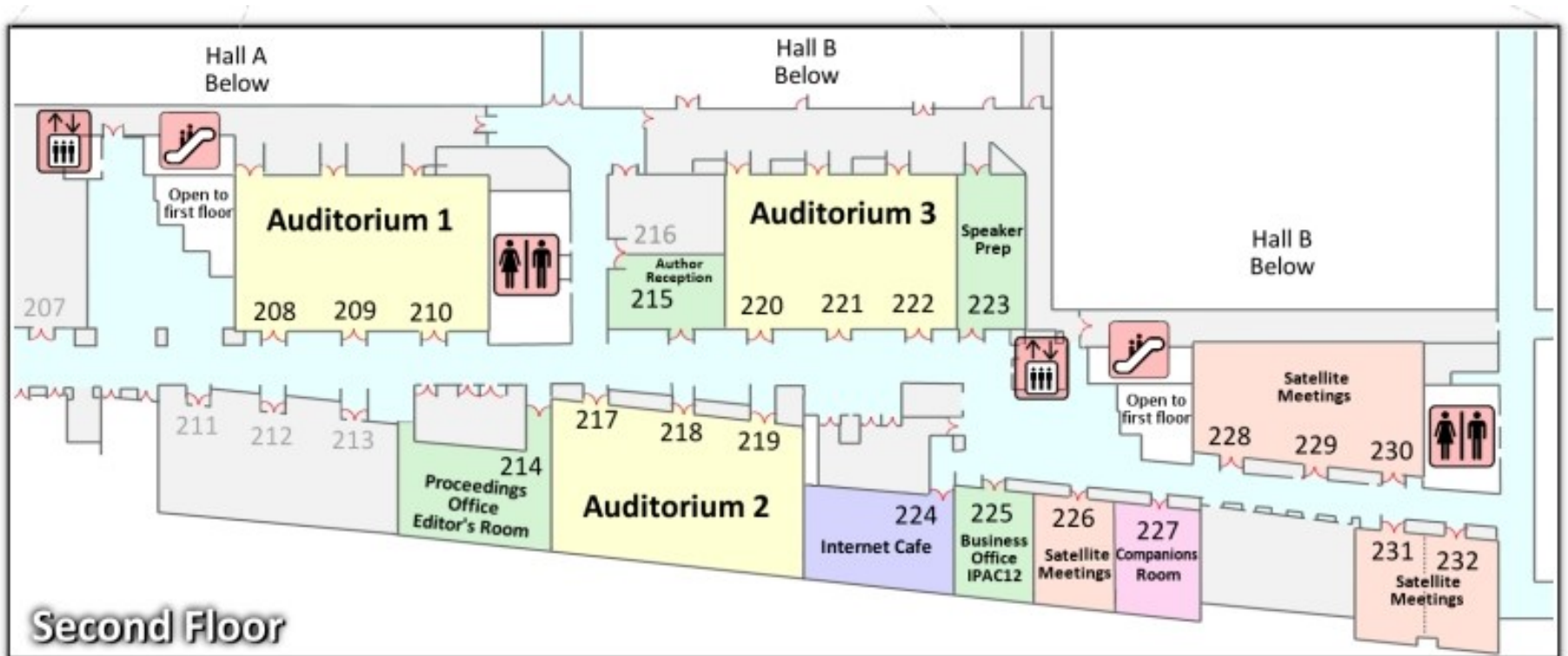
- Network infrastructure at a conference site **MUST** comfortably allow for the required bandwidth
- Things to look for:
 - Local Area Network (LAN) – from computer to switch
 - Minimum - standard Ethernet (10 Mbs)
 - Recommended - Fast Ethernet (100 Mbs)
 - Network Backbone - from switch to switch, switch to router, and router to switch
 - Small conferences - Minimum Fast Ethernet (100 Mbs)
 - Large conferences 1 Gigabit Ethernet (1000 Mbs)
 - Internet Connection – from the router to Internet Service Provider (ISP)
 - Faster the better! 😊

+ Network management

■ Switched VLANS

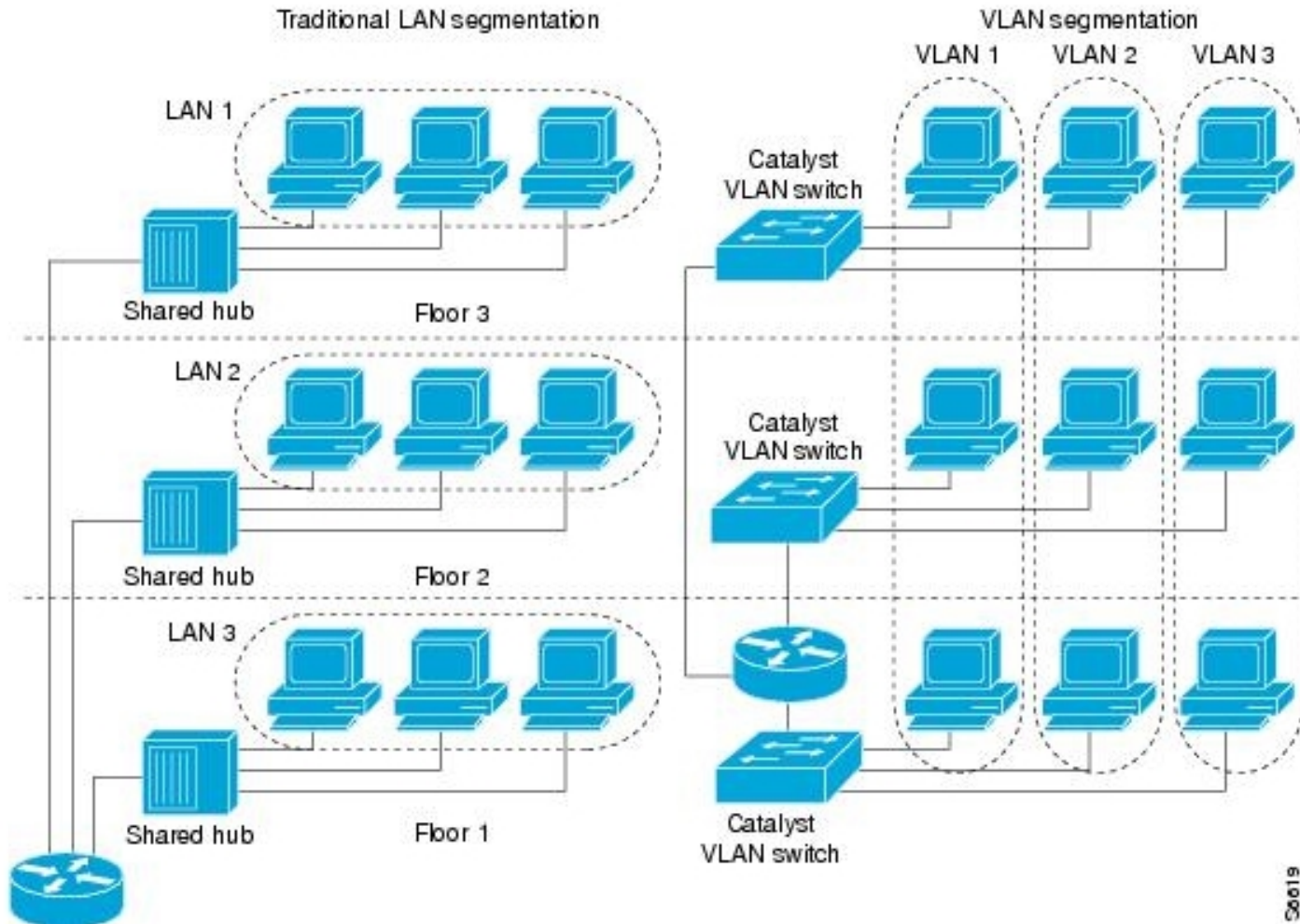
- Requires professional networking personnel and support
- Gives you the ability to segment your network by VLANs.
 - Advantages to a VLAN network:
 - **Performance**: improves performance by not slowing down other users sharing the network
 - **Security**: VLANs improve security by isolating groups
 - No users outside that VLAN can communicate with them.
 - **Network management**: Adds, moves, and changes are achieved by configuring a port into the appropriate VLAN
 - Example: IPAC12'
 - VLAN1 – Proceedings Office, Author Reception, Business Office
 - VLAN2 – Speaker Prep room and Auditorium(s)
 - VLAN3 – Internet Cafe

+ IPAC12 Second Floor Layout



- VLAN1 – Proceedings Office, Author Reception, Business Office
- VLAN2 – Auditoriums 1,2, 3, and Speaker Prep room
- VLAN3 – Internet Café

+ LAN Segmentation and VLAN Segmentation



+ Network management

Unmanaged smart switch networks:

- Simple way to manage computers on a network using Microsoft Windows:
 - Create a windows Workgroup: adds a layer of separation
 - Provides password protection on your network shares
 - For added security:
 - Make sure computer firewall is turned on and configured properly on all computers
 - Anti-virus software installed
 - **Make sure public wireless network is separated from the rest of the network!**

+ Network Connections

- Make sure there are enough Ethernet ports on switches for the number of
 - computers and
 - printers in each room being used.
- **Important Note:**
 - Proceedings office requires additional ports to accommodate the use of personal laptops.
 - Wired connections for laptops are preferred for greater reliability and performance.
- Be sure to test all cable connections after everything is setup.
 - By one estimate, nearly 70 percent of all network-related problems can be traced to either
 - poor cabling techniques or
 - problems with the cabling components!



+ Network drops, switches and wireless connections used for IPAC12

Convention Center Internet/Network/Wireless

Name	Rm.	Drops	Hubs	Wireless
Plenary Sessions	Hall B	1	1 – 8 port	
Auditorium 1	209	1	1 – 8 port	
Auditorium 2	218	1	1 – 8 port	
Auditorium 3	221	1	1 – 8 port	
Proceedings Office	214	1	2 – 16 port	25 users
Author Prep. Rm.	215	1	1 – 8 port	
Speaker Prep Rm.	223	1	1 – 16 port	
Internet Cafe	224	1	2 – 16 port	25 users
IPAC12 Office	225	1	1 – 16 port	
Hall C	Hall C			500 users
Sum Total				

+ Network Parameters

- Network Adapter Settings:

- Know Local Area Connection Properties

- Internet Protocol Version 4 (TCP/IPv4)

- Two setup options:

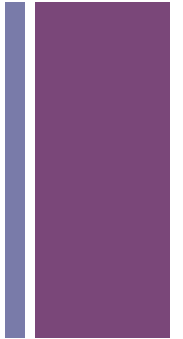
- Static IP setup

- Know IP address range, Subnet mask, Default gateway, Preferred DNS server, and Alternate DNS server settings

- DHCP server setup

- Obtain an IP address automatically

- Obtain DNS server address automatically



+ Network IP assignment

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

Obtain an IP address automatically

Use the following IP address:

IP address:

Subnet mask:

Default gateway:

Obtain DNS server address automatically

Use the following DNS server addresses:

Preferred DNS server:

Alternate DNS server:

Validate settings upon exit

Advanced...

OK Cancel

+ Wireless considerations

- A conference venue's wireless capability and its limitations needs to be clearly understood.
 - Know what level of service they can and cannot offer.
- **Weaknesses should be addressed in advance**
 - Possibilities:
 - Adding more Access Points
 - Consider third party vendor wireless setup
- Reasonable expectations should be clearly communicated and agreed upon with the facility conference manager.
 - Any guarantees should be in writing.
- Wireless devices proven reliable:
 - Cisco Aironet
 - Ruckus Wireless (Zone Director 1100 and Zone Flex)



+ Wireless standards

IEEE 802.11 b, a, g, n

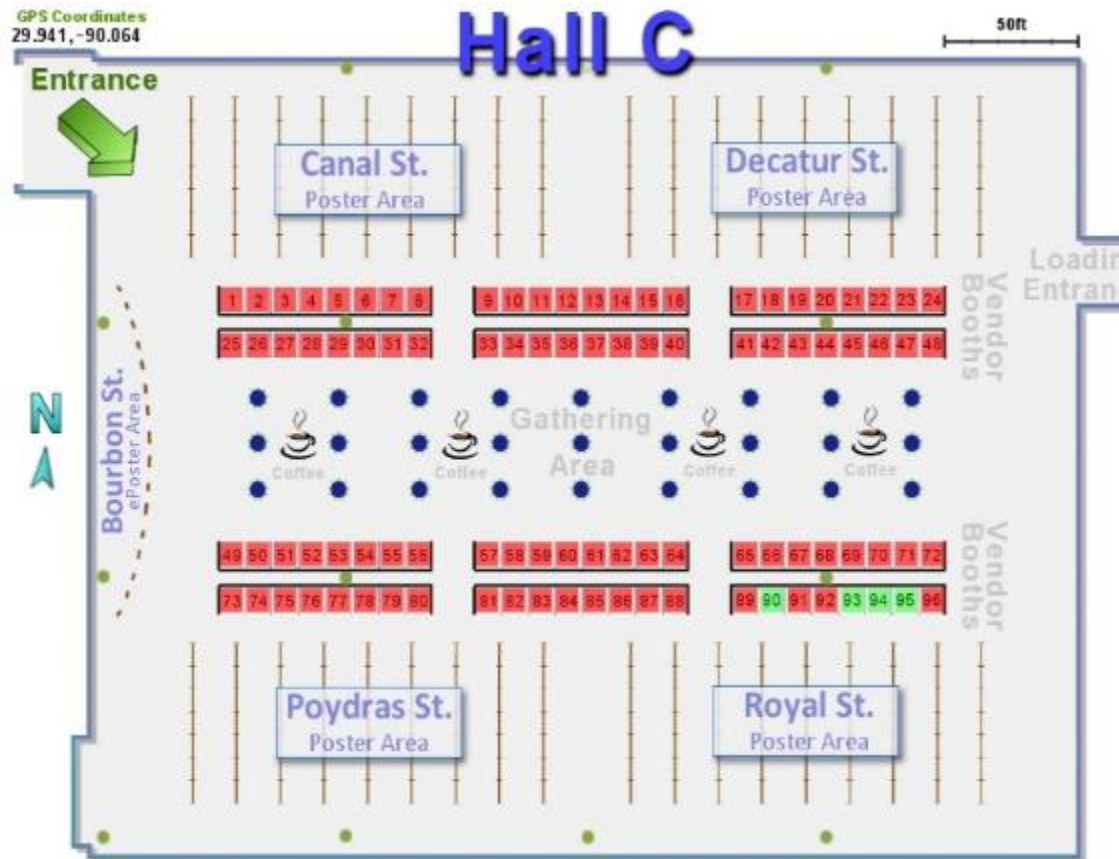
- **Pros of 802.11b** - lowest cost; signal range is good and not easily obstructed
Cons of 802.11b - slowest maximum speed; home appliances may interfere on the unregulated frequency band
- **Pros of 802.11a** - fast maximum speed; regulated frequencies prevent signal interference from other devices **Cons of 802.11a** - highest cost; shorter range signal that is more easily obstructed
- **Pros of 802.11g** - fast maximum speed; signal range is good and not easily obstructed
Cons of 802.11g - costs more than 802.11b; appliances may interfere on the unregulated signal frequency
- **Pros of 802.11n** - fastest maximum speed and best signal range; more resistant to signal interference from outside sources
Cons of 802.11n - costs more than 802.11g; the use of multiple signals may greatly interfere with nearby 802.11b/g based networks.

802.11 ac (new emerging standard)

- Is an evolution of 802.11n. Goal is to deliver higher levels of performance that are commensurate with Gigabit Ethernet networking.
- 5 GHz-only technology

+ IPAC 12' Exhibitors, Posters and ePosters area

Wireless setup to accommodate up to 500 users
104, 862 sq. ft.



+ IPAC 12' Exhibitors, Posters and ePosters area





II. Computers

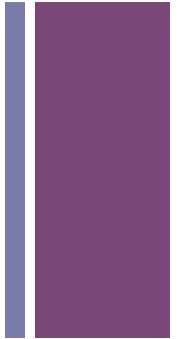
- Renting: the pros
 - Cost savings; you can save over half the cost of purchasing outright
 - Renting can provide delivery to and pickup from the venue

- Renting: the cons
 - Not all rental companies are equal
 - Check references from previous users
 - Make sure they carry reasonably current hardware
 - Make sure they have good reputation for responding quickly to customer needs.

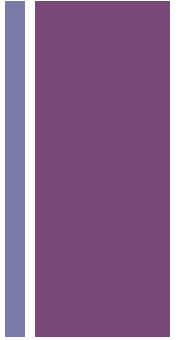
- Plan enough time for proper set up:
 - time needed to install, configure and test all your computers including:
 - network shares
 - particularly the auditorium computers that will be handling large audio/video presentations!

- Remember to estimate the power supply needs of each room, so as not to overload the circuits available in the room!

Recommended national rental company in the U.S.: RENTEX, Inc.



+ Proceedings Office: Recommended Hardware



JACoW.org website link:

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



Desktop computer specs used at IPAC12'

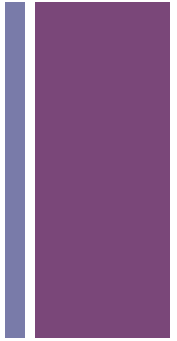


- Dell Optiplex 980 SFF
 - CPU: Core i7 860, 2.8 GHz
 - RAM: 8 GB DDR3 1333 MHz SDRAM
 - Gigabit Ethernet
 - Storage: 1 TB 7200 RPM SATA 3.0 Gbps HDD
 - Multi DL DVD Burner
 - Graphics: 512 MB ATI Radeon HD 4550 (1xDVI, 1xDisplay port)
 - 19-In-1 Media Card Reader

- Monitor: Dell 24" U240 LCD Display, 1920 x 1200 resolution
 - Large monitors necessary for the Proceeding Office.
 - Screen real estate needed for viewing multiple windows
 - Better resolution, less eye strain



Laptop configurations used



- Configuration used for Auditoriums:
 - CPU: Intel Core i7 – 2670QM, 2.2GHz
 - RAM: 8GB
 - Graphics: NVIDIA GeForce GT 630M, 2GB
 - Dedicated graphics card necessary
 - Storage: 750GB
 - DVD optical drive
 - HDMI out
 - Audio: SonicMaster

- Minimum configuration used:
 - ASUS, Model X44H
 - CPU: Intel Core i3 - 2350 @2.3GHz, Sandy Bridge 32nm
 - RAM: 4.00 GB Single-Channel DDR3 @ 665MHz
 - Graphics: Intel HD 3000
 - Storage: 300GB Seagate
 - DVD optical drive
 - Audio: Realtek High Definition



Web and File Server specs



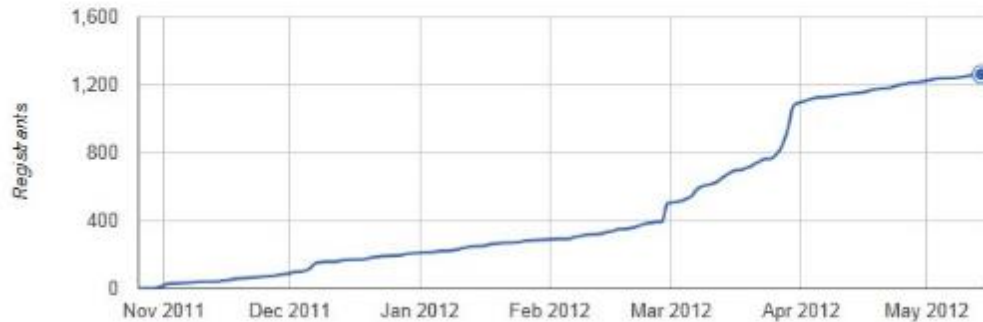
System Components

- PowerEdge R410 Chassis w/up to 4 Hot-Plug Hard Drives, LCD diagnostics
 - 16GB Memory (4x4GB), 1333 MHz Dual Ranked RDIMMs for 2 Procs, Advanced ECC
 - Intel Xeon E5620 2.4Ghz, 12M Cache, Turbo, HT, 1066MHz Max Mem
 - Intel Xeon E5620 2.4Ghz, 12M Cache, Turbo, HT, 1066MHz Max Mem
 - PERC H700 Adapter, Internal RAID Controller 512MB Cache
 - DVD-ROM, Drive, Internal
 - RAID 6 for PERC6i/H700 Controllers
 - (4) – 500GB 7.2K RPM SATA 3.5” Hot Plug Hard Drive
 - Power Supply, 480W



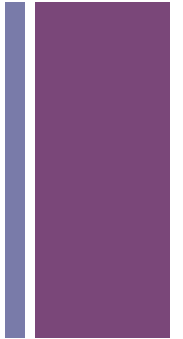
Web and File server reminders

IPAC12' Participants



- The final months before a conference are the Web and File Servers busiest in terms of load
- During a conference editors are continually downloading and uploading papers, along with any modified source files from the File Server
- ***Therefore, the reliability and connectivity to the Web and File Server from or at the venue is very important!***

+ Printers recommended



- Proceedings Office:
 - Two - HP Color LaserJet **PostScript** Enterprise CP4525dn
 - 100 sheet multipurpose – tray 1
 - 500 sheet – tray 2
 - HP Jetdirect Gigabit Ethernet
 - Embedded print server memory 1GB (1024 MB)
- Light duty printer:
 - HP LaserJet P2050dn
- Be sure to have replacement toner cartridges and paper on-hand.



Approximate number of computers needed depending on size of conference

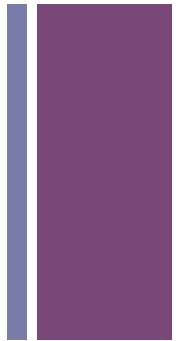


- Proceedings Office
 - ~10 to 20 computers
- Author Reception
 - ~2 to 5 computers
- Presentation Management
 - PC and Mac support
 - Minimum 2 pc laptops and 1 mac laptop
- ◆ Auditorium(s)
 - ◆ PC and Mac support for each auditorium
 - ◆ Have spare on-hand
- ◆ Internet Café
 - ◆ ~10 to 20 computers
 - ◆ Space available for laptop users
- ◆ Satellite Meetings
 - ◆ Laptop and Projector
 - ◆ As needed
- ◆ Dot Board
 - ◆ Laptop and Large Screen
 - ◆ For each location used

* Make sure laptops and presentation software used in the Auditorium(s) are identical to those being used in the Speaker Ready room. This allows for a consistent platform for fixing problems before speakers give their talk.



Number of computers used at IPAC12



Number of Computers, Monitors, Printers and their Locations:

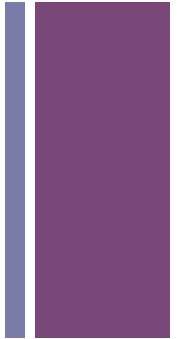
Locations	Rm. #	Mac laptops	PC laptops	Desktops	Monitors	Printers	Scanner	Computers subtotal
Plenary Sessions	Hall B	1	1					2
Auditorium 1	209	1	1					2
Auditorium 2	218	1	1					2
Auditorium 3	221	1	1					2
Proceedings Office	214			25	25	2		25
Author Prep Rm.	215		1	4	4			5
Speaker Prep Rm.	223	2	3					5
Internet Café	224			20	20			20
IPAC12 Office	225		2	5	5	1	1	7
ePoster laptops	Hall C		15					15
Spare laptops	Satellite meetings		4					4
Confidence monitors	Hall B, 209, 218, 221				4			
Total Number		6	29	54	58	3	1	89



IPAC12' computer preparation



Computers delivered a week in advance of conference.





Diskology.com Disk Jockey Pro

Hard disk duplicator



A master drive was created and duplicated for different setups.

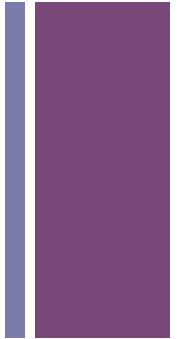
+ Hard drives reinstalled



Network parameters assigned

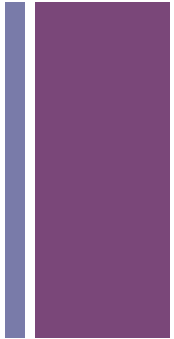
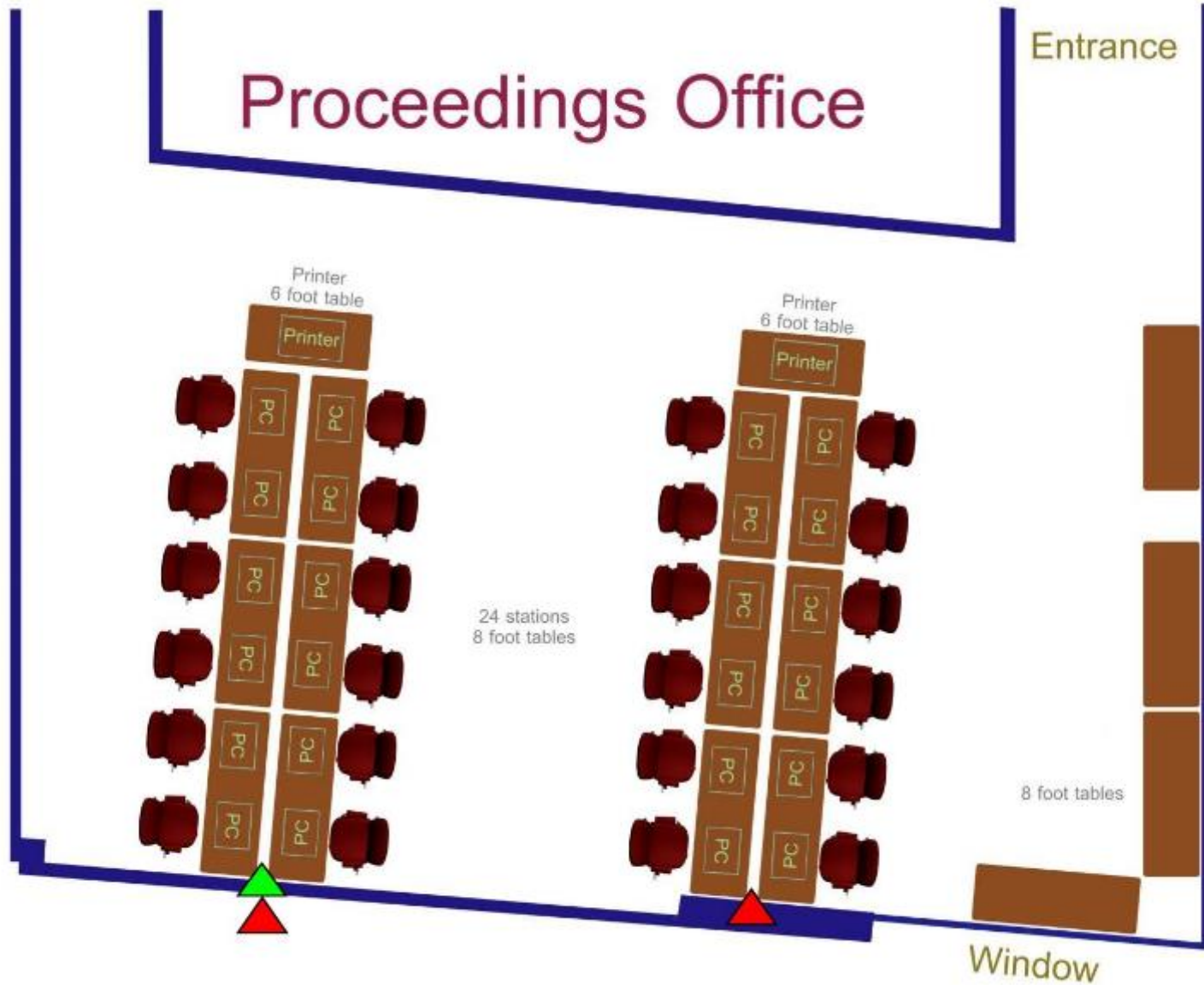


Packed and ready to go.

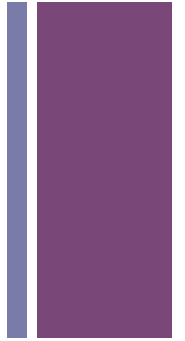




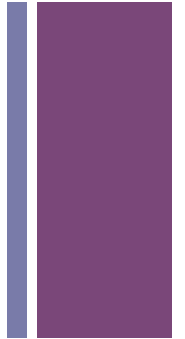
IPAC12'



+ IPAC 12' Proceedings Office



+ IPAC 13' Proceedings Office



+ IPAC 13' Proceedings Office



+ IPAC 11' Proceedings Office



+ IPAC 11' Proceedings Office



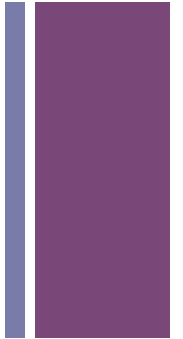
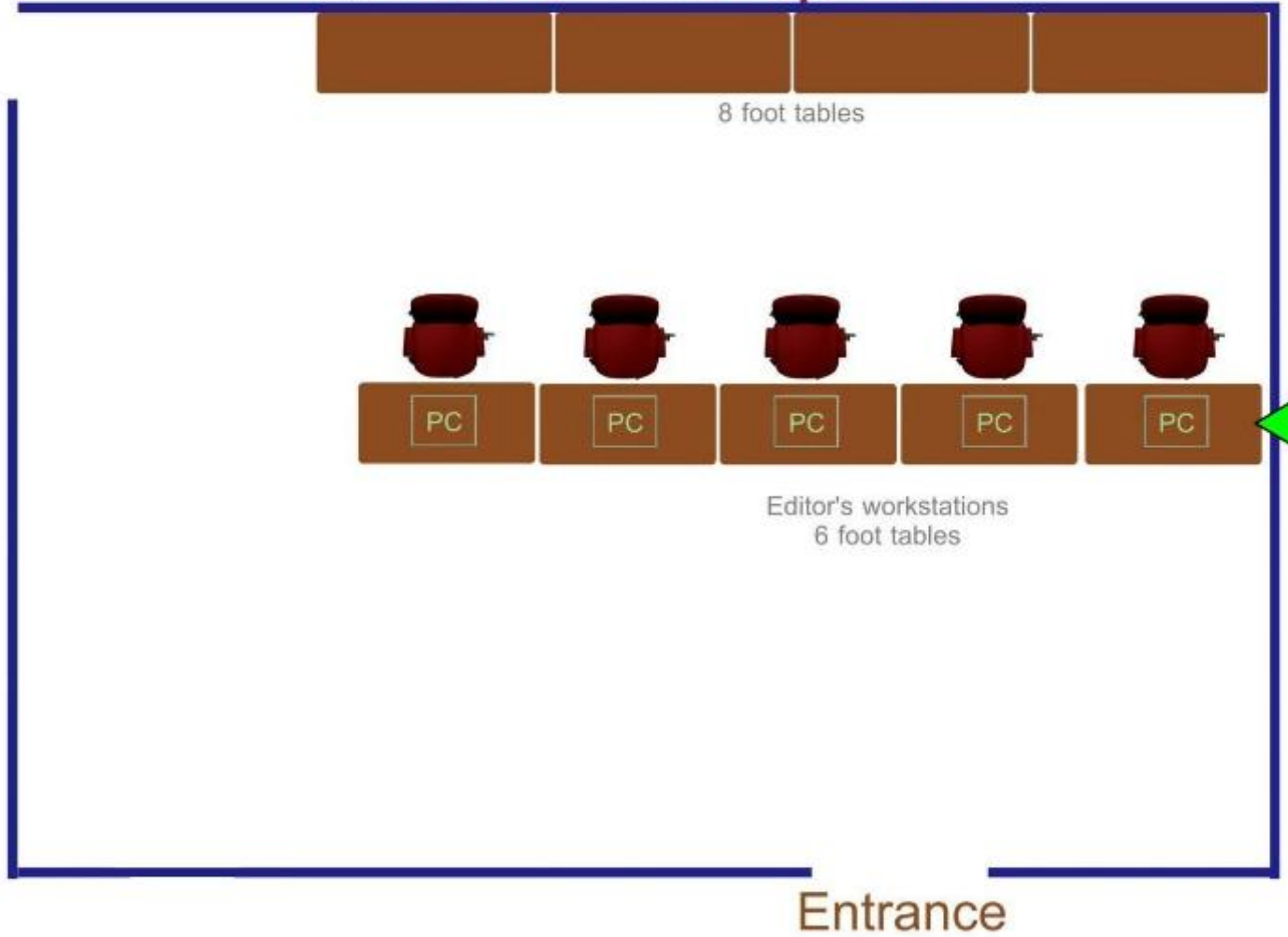
+ NAPAC 13' Proceedings Office





IPAC12'

Author Reception



+ IPAC12' Author Reception



+ IPAC12' Author Reception



+ IPAC12' Author Reception



+ IPAC 11' Author Reception



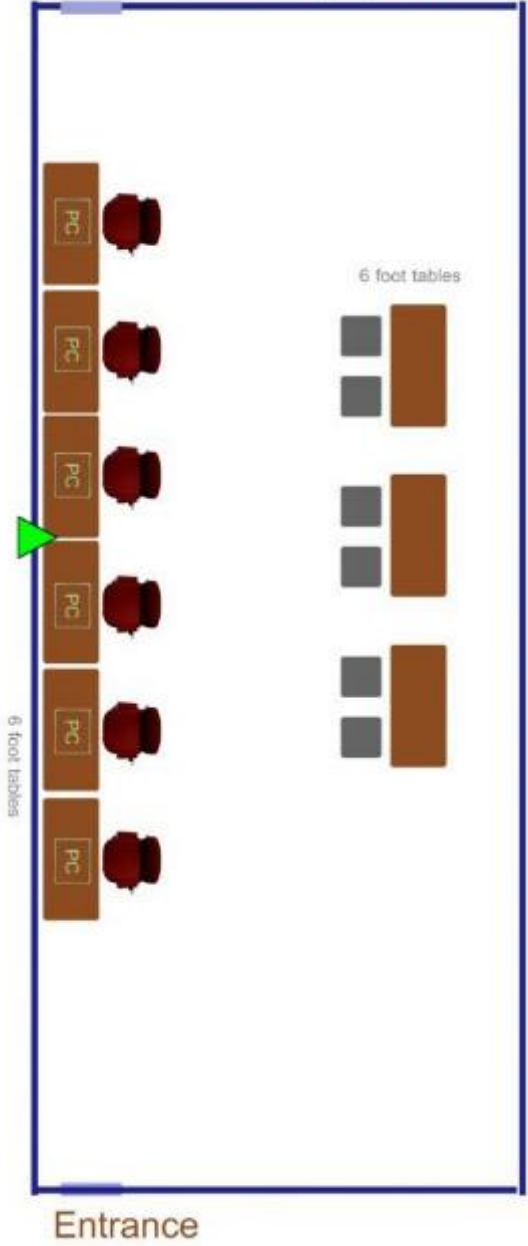
+ IPAC11' Author Reception





IPAC12'

Speaker Prep (Rm223)



+ IPAC 11' Speaker Ready room

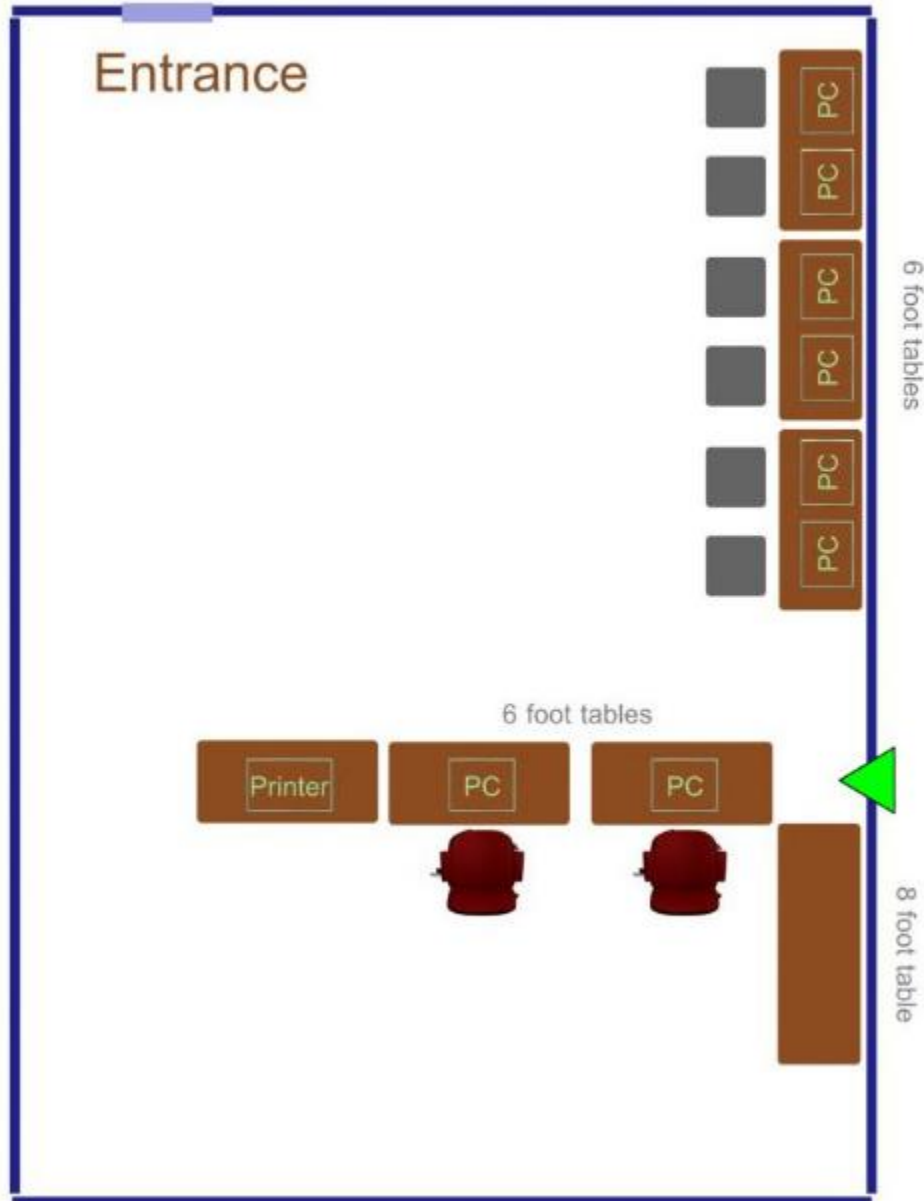


+ IPAC 13' Speaker Ready room

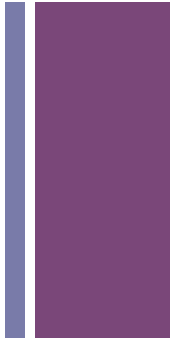




Business Office (Rm225)



IPAC12'



+ IPAC12' Business Office

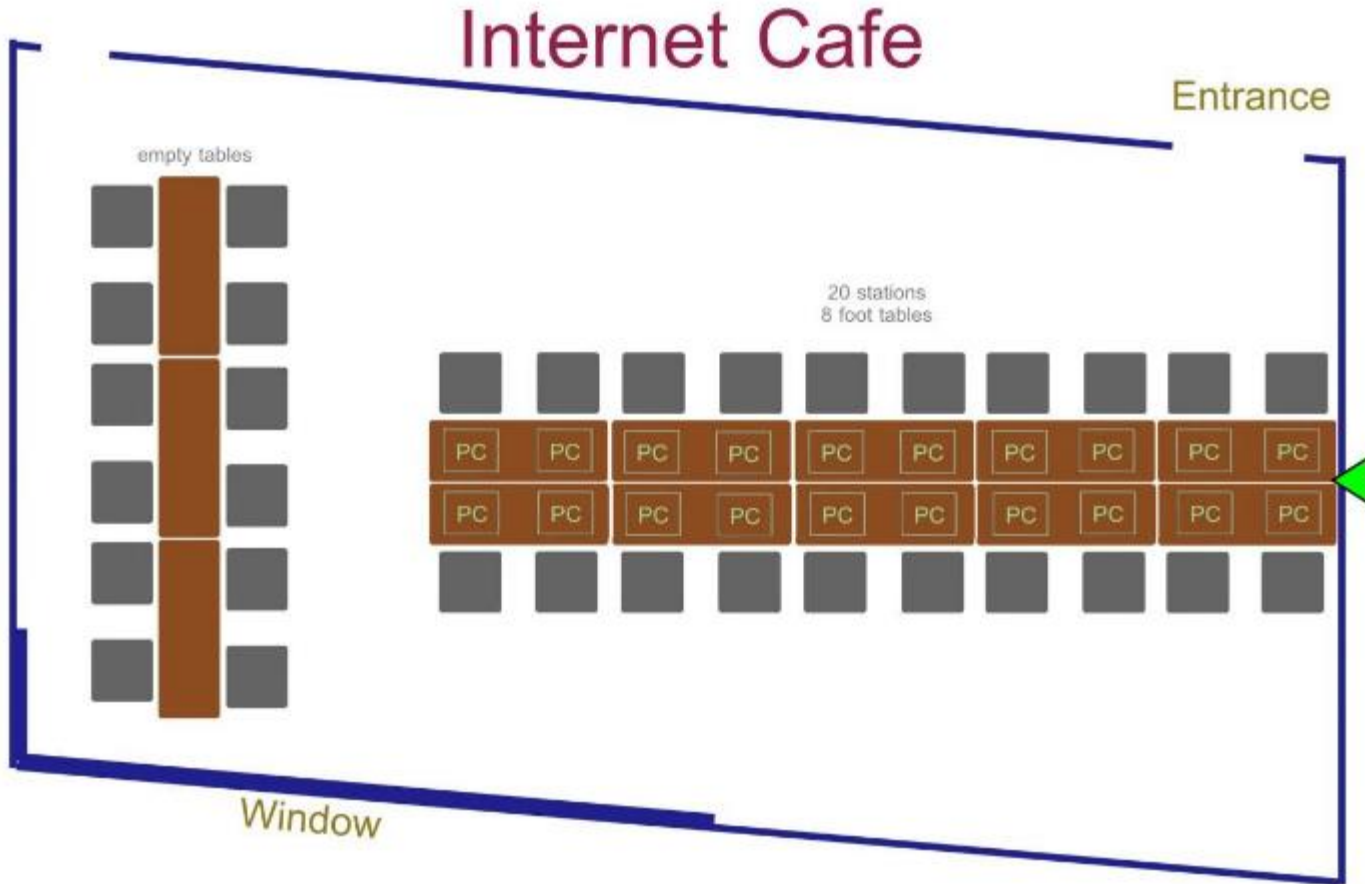


+ IPAC12' Business Office





IPAC12'



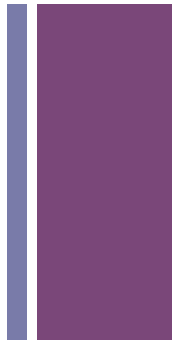
+ IPAC11' Internet Cafe



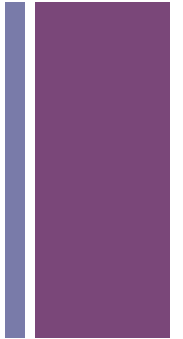
+ IPAC11' Internet Cafe



+ IPAC11' Internet Cafe



+ IPAC 11' Internet Cafe





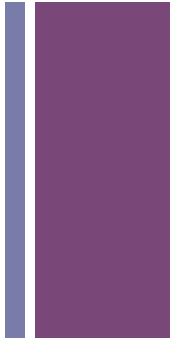
III. Software



- **Important:** Make sure all Critical and Important updates are installed through Windows Update before installing software!
 - Patches can be sequential. Re-run Windows update until all updates are installed!
- Recommended Software List – on JACoW.org website
 - <http://jacow.org/index.php?n=Editors.RecommendedSoftware>
- JACoW_Software_Bundle – prepared courtesy of Raphael Mueller
- JACoW licenses
 - Adobe Acrobat Pro 9
 - Enfocus PitStop 30 day trial ok to use
- Software Installers
 - NSIS (Nullsoft Scriptable Install System) – nullsoft.com
 - Ninite – installs or updates multiple apps at once – ninite.com
- Disk imaging/cloning
 - Software (Clonezilla, Norton Ghost, etc.)
 - Hard disk duplicators (Disk Jockey Pro, Aleratec, etc.)



Recommended Software List



Windows PC's

- Windows 7 64 bit
- Microsoft 2010 with all updates installed
- Libre Office
- Internet Explorer
- Firefox
- Google Chrome
- Adobe Acrobat Pro 9 (patched!)
 - JACoW Acrobat configuration
 - JACoW Distiller – JobOptions properly installed
- Enfocus Pitstop Pro 11 (30-day trial)
 - JACoW MediaBox ActionList
- Text Editors:
 - gVim for windows
 - Notepad++
 - WinEdt (30 day trial)
 - EditPlus
- 7Zip
- Quicktime
- Ghostview, GSView
- Evince (PS/PDF viewer)
- SSH client (e.g. PuTTY, FileZilla)
- Anti-Virus Software
- IrfanView
- TeXLive LaTeX distribution or TexnicCenter and/or TexMaker as a Tex GUI
- JACoW LaTeX – classfile properly installed
- VLC
- JACoW PS printer driver
- GIMP
- Paint.NET
- Inkscape
- DoubleCommander
- DoubleCommander (OpenSource) or SpeedCommander (30-day trial)

*Where not specified, software version is intended to be “latest stable version available”.



Recommended Software List



Apple PCs

- Mac OSX Mavericks
- MS Office for Mac 2011
- Libre Office
- Mozilla Firefox
- Google Chrome
- LaTeX
- GIMP

Linux PC's

- Ubuntu based distribution, latest version
- Libre Office
- Mozilla Firefox
- Google Chrome
- TeXLive
- JACoW LaTeX classfile properly installed
- LaTeXila
- gVim
- EMACS
- GIMP

+ NSIS

(Nullsoft Scriptable Install System)



The image shows a screenshot of a web browser displaying the main page of the Nullsoft Scriptable Install System (NSIS) project. The browser's address bar shows the URL `nsis.sourceforge.net/Main_Page`. The page has a blue header with the NSIS logo and the text "nullsoft scriptable install system". Below the header, there are navigation tabs for "page", "comment", "view source", and "history". On the left side, there is a "website navigation" menu with a tree structure of links. The main content area is titled "Main Page" and contains three paragraphs of text describing the NSIS system.

website navigation

- [Main Page](#)
- [News](#)
- [Features](#)
 - [Screenshots](#)
 - [NSIS 2](#)
 - [License](#)
- [Documentation](#)
- [Support](#)
 - [Community](#)
 - [FAQ](#)
 - [Bug Reports](#)
 - [Requests](#)
- [Developer Center](#)
 - [Plug-ins](#)
 - [Tutorials](#)
 - [Examples](#)
- [Download](#)

page comment view source history

Main Page

NSIS (Nullsoft Scriptable Install System) is a professional open source system to create Windows installers. It is designed to be as small and flexible as possible and is therefore very suitable for internet distribution.

Being a user's first experience with your product, a stable and reliable installer is an important component of successful software. With NSIS you can create such installers that are capable of doing everything that is needed to setup your software.

NSIS is script-based and allows you to create the logic to handle even the most complex installation tasks. Many plug-ins and scripts are already available: you can create web installers, communicate with Windows and other software components, install or update shared components and more.

[Detailed list of features...](#)



Ninite.com — Works with Windows and Linux

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.

Web Browsers

- Chrome
- Opera
- Firefox

Security

- Essentials
- Avast
- AVG
- Malwarebytes
- Ad-Aware
- Spybot 2
- Avira
- Super

Developer Tools

- Python
- FileZilla
- Notepad++
- JDK
- WinSCP
- PuTTY
- WinMerge
- Eclipse

Messaging

- Skype
- Pidgin
- Digsby
- Google Talk
- Thunderbird
- Trillian
- AIM
- Yahoo!

Online Storage

- Dropbox
- Google Drive
- Mozy
- SkyDrive
- SugarSync

Media

- iTunes
- Hulu
- VLC
- KMPlayer
- AIMP
- foobar2000
- Winamp
- Audacity
- K-Lite Codecs
- GOM
- Spotify
- CCCP
- MediaMonkey
- QuickTime

Runtimes

- Java
- .NET
- Silverlight
- Air
- Shockwave

File Sharing

- qBittorrent
- eMule

Compression

- 7-Zip
- PeaZip
- WinRAR

Imaging

- Paint.NET
- Picasa
- GIMP
- IrfanView
- XnView
- Inkscape
- FastStone
- Greenshot

Other

- Evernote
- Google Earth
- Steam
- KeepPass 2
- Everything
- NVDA

Documents

- Office
- OpenOffice
- Reader
- SumatraPDF
- Foxit Reader
- CutePDF
- LibreOffice
- PDFCreator

Utilities

- TeamViewer
- ImgBurn
- Auslogics
- RealVNC
- TeraCopy
- CDBurnerXP
- TrueCrypt
- Revo
- Launchy
- WinDirStat
- Glary
- InfraRecorder
- Classic Start

Get Installer



Software Configurations

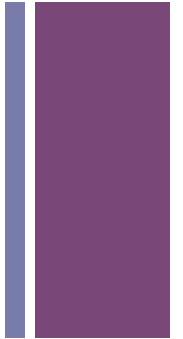


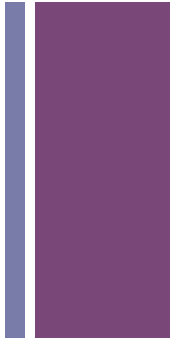
- JACoW Acrobat Preferences properly configured
 - Example: Acrobat should be configured so that “Actual size” is chosen and NOT “Scaled to fit” when printing.
 - See “Manual on Setting up Acrobat 9 and PitStop 10”
 - <http://jacow.org/uploads/Editors/Acrobat9PitStop10.pdf>
- JACoW Distiller Job Options properly installed
- JACoW PostScript Printer Driver
- JACoW MediaBox ActionList needs to be installed in PitStop
- Default program for PostScript files should be Distiller.

+ Backups

Things to backup in the Proceedings Office:

- Work stored in a PO folder on the desktop can be shared on the network for a scheduled backed up to a designated computer.
- If using a local file server for the SPMS stored files, be sure to backup the same way.
- Speaker Ready room keeps a local backup of all the talks in case of network transfer problems.
- SyncBackFree – free reliable backup software to consider <http://www.2brightsparks.com/freeware/>





Questions?
Or
Comments