

# *APS IT Help Desk & Windows Desktop Administration*

*Mary Westbrook*

*December 13, 2005*



*Argonne National Laboratory is managed by  
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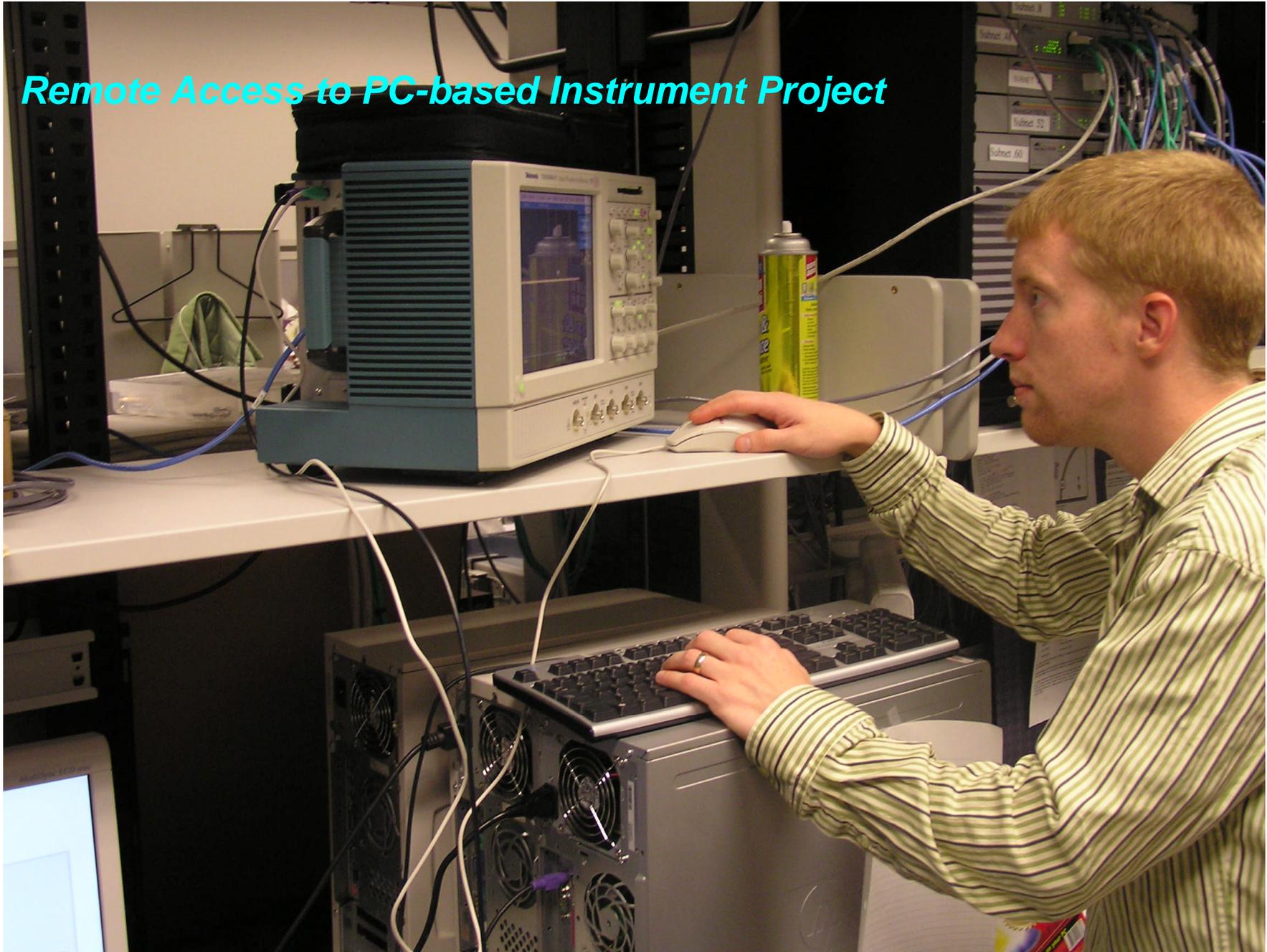
## *APS IT Help Desk Support Team*

- AOD/IT Group
  - **Team** of 21 full-time employees, 1 STA, and 1 co-op student
- Degreed and professionally certified
- Wealth of technical expertise (over **400** years of experience in the field)
- Work together to resolve complex IT problems
- Each IT professional has multiple duties
  - Help Desk
  - Beamline support
  - Infrastructure maintenance (Network, Servers, ...)
  - Projects (Infrastructure, user requested,...)
  - Other Assignments

*AOD/Information Technology Group*



*Remote Access to PC-based Instrument Project*

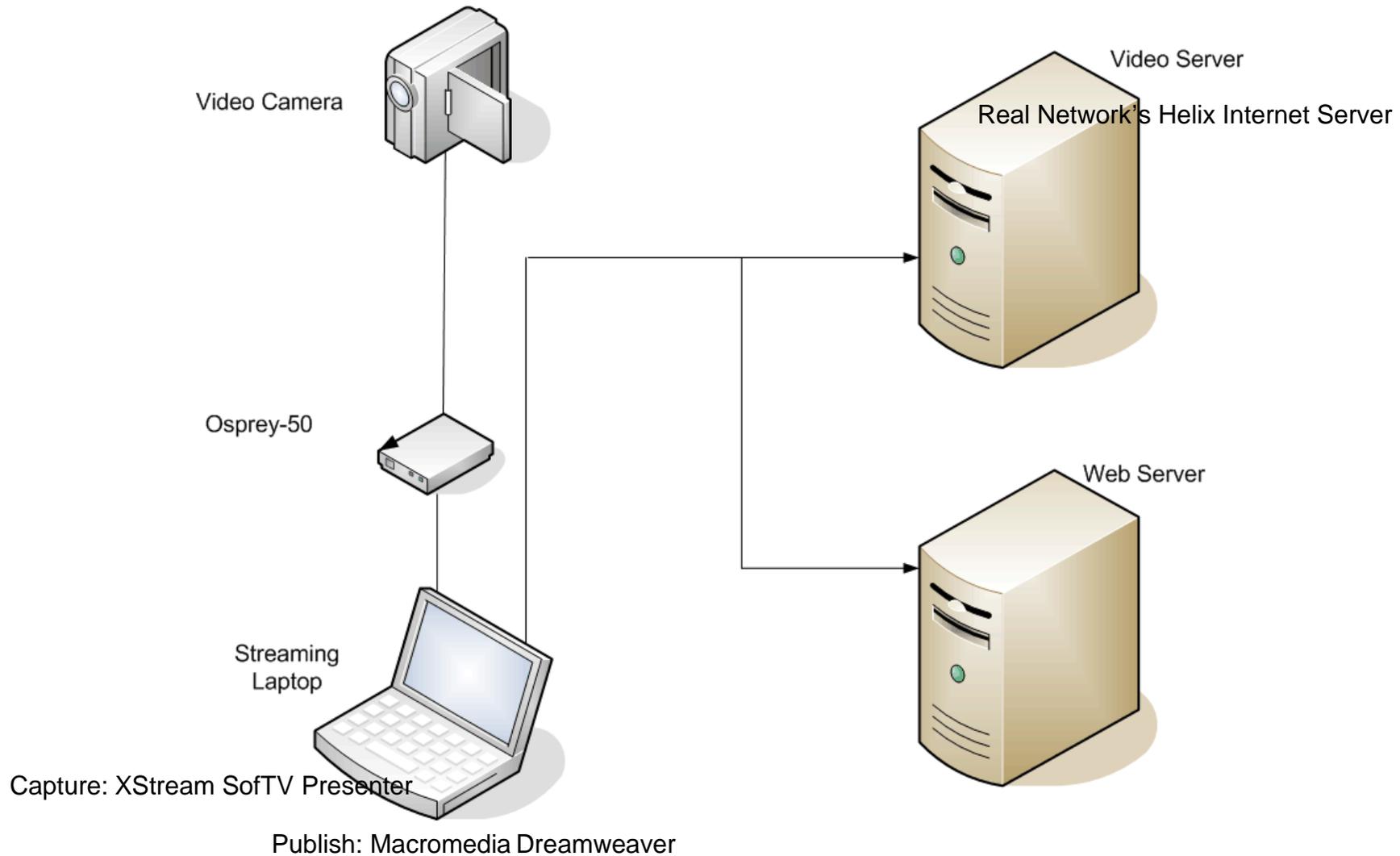




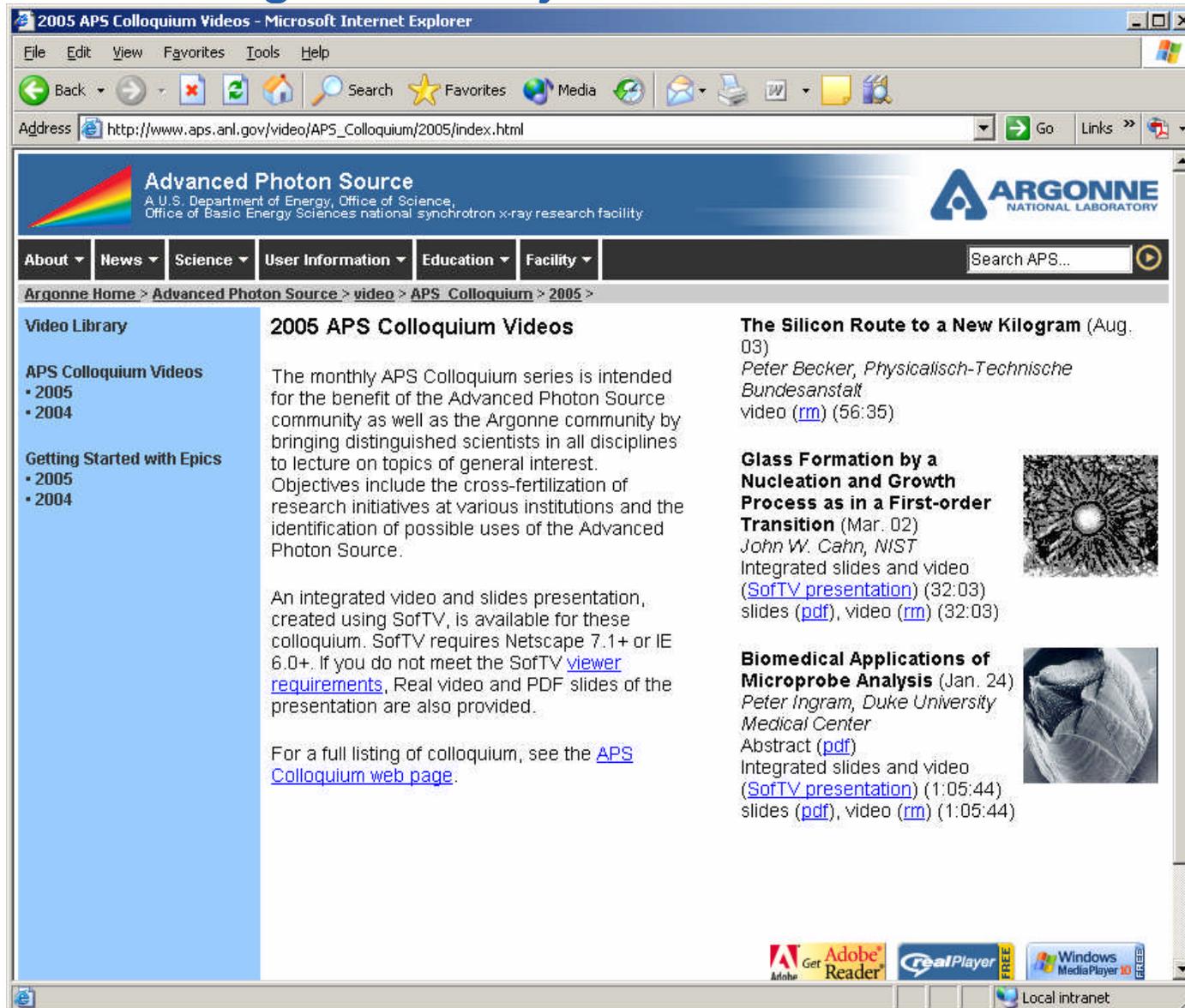
## *APS Streaming Video Requirements*

- 10/2003 Committee of those interested in streaming video formed to explore
  - Project requirements
  - Current technology
  - Rick Fenner led APS participation: Ken Sidorowicz, Rodney East, Steve Shoaf, and Chris Klaus
- Video project requirements
  - Integrated presentation: video and slides
  - Presentation viewable by all APS supported platforms
    - *Solaris*
    - *Linux*
    - *MAC OS*
    - *Windows*
  - Prefer freely downloadable client
- Committee identified SofTV Presenter software solution
- Hardware solutions were examined
  - Too expensive
  - Locked into hardware

## Streaming Video Infrastructure and Software



# APS Streaming Video Project Web Presence



2005 APS Colloquium Videos - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Refresh Print Mail New Tab

Address [http://www.aps.anl.gov/video/APS\\_Colloquium/2005/index.html](http://www.aps.anl.gov/video/APS_Colloquium/2005/index.html) Go Links

**Advanced Photon Source**  
A U.S. Department of Energy, Office of Science,  
Office of Basic Energy Sciences national synchrotron x-ray research facility

**ARGONNE**  
NATIONAL LABORATORY

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**Video Library**

**APS Colloquium Videos**

- 2005
- 2004

**Getting Started with Epics**

- 2005
- 2004

**2005 APS Colloquium Videos**

The monthly APS Colloquium series is intended for the benefit of the Advanced Photon Source community as well as the Argonne community by bringing distinguished scientists in all disciplines to lecture on topics of general interest. Objectives include the cross-fertilization of research initiatives at various institutions and the identification of possible uses of the Advanced Photon Source.

An integrated video and slides presentation, created using SofTV, is available for these colloquium. SofTV requires Netscape 7.1+ or IE 6.0+. If you do not meet the SofTV [viewer requirements](#), Real video and PDF slides of the presentation are also provided.

For a full listing of colloquium, see the [APS Colloquium web page](#).

**The Silicon Route to a New Kilogram** (Aug. 03)  
*Peter Becker, Physikalisch-Technische Bundesanstalt*  
video ([rm](#)) (56:35)

**Glass Formation by a Nucleation and Growth Process as in a First-order Transition** (Mar. 02)  
*John W. Cahn, NIST*  
Integrated slides and video ([SofTV presentation](#)) (32:03)  
slides ([pdf](#)), video ([rm](#)) (32:03)

**Biomedical Applications of Microprobe Analysis** (Jan. 24)  
*Peter Ingram, Duke University Medical Center*  
Abstract ([pdf](#))  
Integrated slides and video ([SofTV presentation](#)) (1:05:44)  
slides ([pdf](#)), video ([rm](#)) (1:05:44)

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The Abnormal State of the High-Tc Superconductors...or Undressing Electrons with Nearly a Milli - Microsoft Internet Explorer

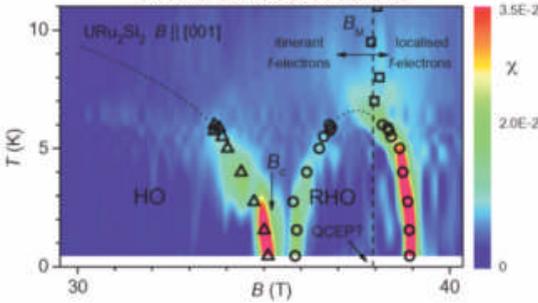
## NHMFL – Pulsed Facility

Six fully-multiplexed magnet cells host 150-200 visiting scientists a year, 20% travel from overseas use unique pulsed field capabilities



### Magnetic Field Driven Phase Transitions and Quantum Criticality

*Jaime, et al, PRL 89 (2002) 287201*  
*Harrison, et al, PRL 90 (2003) 096402*  
*Kim, et al, PRL 91 (2003) 256401*

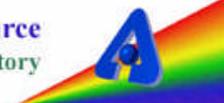


*Preliminary, unpublished data removed by request of author.*



**In-house Scientists:**  
**Scott Crooker** (Visible, IR, THz Spectroscopy)  
**Marcdo Jaime** (Thermodynamics, esp. Specific Heat)  
**Neil Harrison** (Thermodynamics, esp. Magnetization)  
**Fedor Balakirev** (Magneto-transport)  
**John Singleton** (Magnetization, GHz spectroscopy)  
**Charles Mielke** (RF Transport & Head of Users Program)  
**Albert Migliori** (Thermodynamics, Ultrasound Spectroscopy)  
**Dwight Rickel** (Optical Spectroscopy)  
**Jason Lashley** (Thermodynamics, esp. Specific Heat)

**Advanced Photon Source**  
Argonne National Laboratory




NHMFL-Pulsed Facility

5. NHMFL-Pulsed Facility

6. NHMFL-UF Facilities

7. 45T NHMFL Hybrid Magnet

8. Superconducting Magnet Development

9. 100 YEARS OF NON-DESTRUCTIVE MAGNETS

5 of 39

**Title:**  
The Abnormal State of the High-Tc Superconductors...or Undressing Electrons with Nearly a Million Gauss

**Description:**  
APS Colloquium June 2, 2004

**Presenter:** Greg Boebinger

**E-mail:**

**Presentation Date:** Wednesday, June 02, 2004  
**Presentation Time:** 11:00:00 AM

[Click here for help with this soTV.Presenter Presentation](#)

## *APS IT Liaison to the CATs*

- Assist APS-CSPR in CAT compliance with ANL and DOE Cyber Security Policies
- Assist in facilitating their access to APS Services: email, web, ...
- Assist with any APS or ANL IT related projects: MS Software Inventory, RHE Linux licensing,...
- Assist with CAT DNS registrations with APS DNS Server

## *User Access to IT Support within the APS*

- **Log a support case within APS Help Desk System**
  - Simple Web page for submitting and monitoring requests
- IT Phone Support 2-9273
- Contact IT Group Secretary, Diane Wilkinson, 2-7810
- Page IT staff directly
- Contact IT Group Leader, Ken Sidorowicz, 2-6699
- Off-hours support:
  - Contact MCR 2-9424
  - Contact Floor Coordinator on duty 2-0101
  - Operators and floor coordinators contact IT staff via emergency on-call phones
- Arrangements can be made for IT staff availability off-hours and off-site
  - APS-UO Meeting, web-camera and video camera/Netmeeting
  - Future Scientific Directions for the APS and Strategic Planning Meeting at the Abbey in Lake Geneva, PCs and network support

**IT professionals are reachable 7x24 for emergencies**

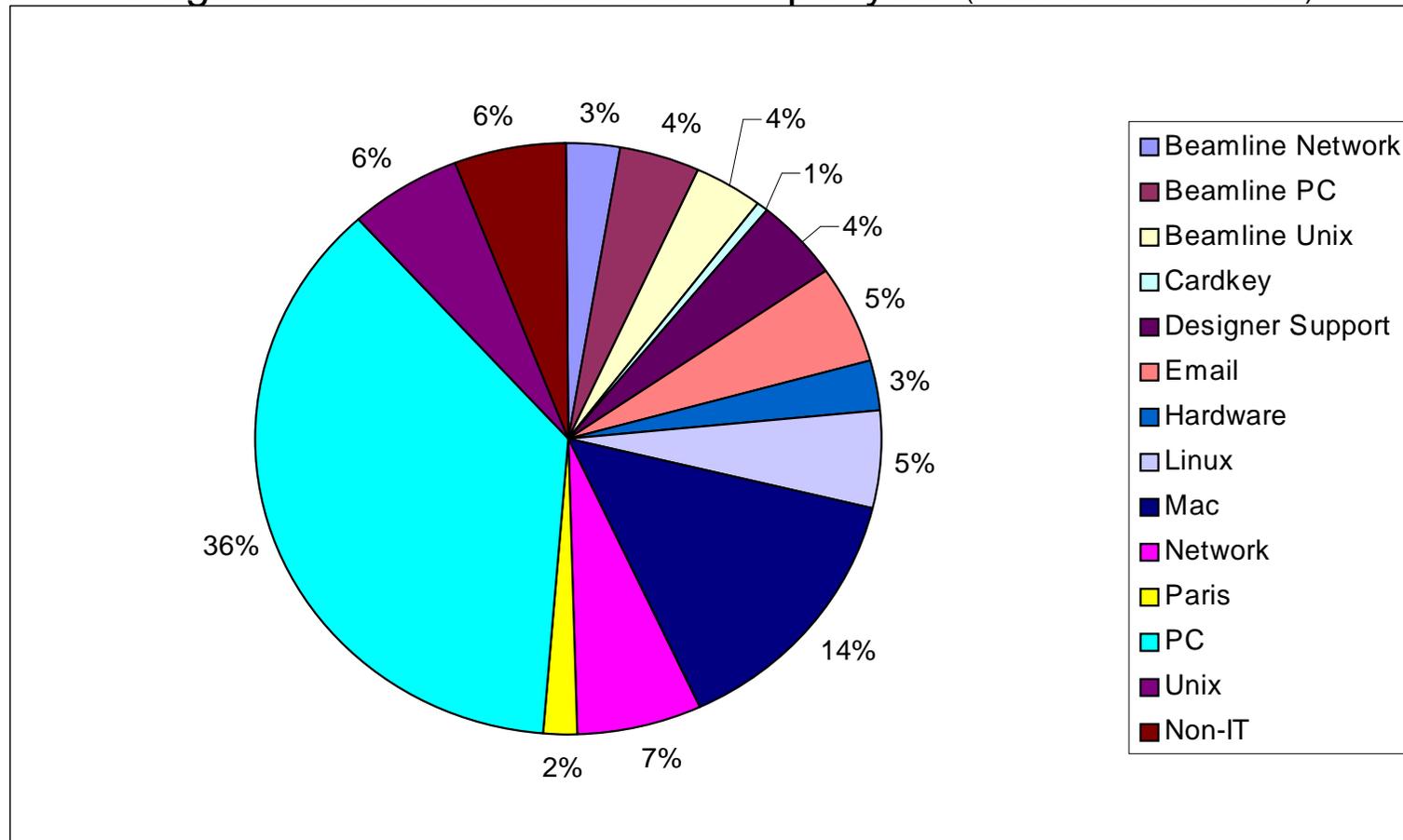
## *Help Desk Productivity*

- One measurement of productivity is via Help Desk statistics
- It's important to note that these statistics do not capture everything:
  - Help desk cases range in complexity
    - *Some involve multiple problems (not always 1 to 1)*
  - Some problems are not recorded in the help desk system
    - *Walk-ins, walk-ups, emails, and phone calls*
    - *Helping others in group troubleshoot help desk cases*
    - *Return cases (“1 more thing”)*
  - Maintaining infrastructure (Servers, Backups, ...)
  - Other projects

## FY2005 Distribution of Help Desk Requests

### ■ Windows PC cases

- Represent over 40% of the 5,250 FY2005 Help Desk Requests
- 8 Windows administrators
- Average of 263 closed cases/admin per year (in addition to other duties)



## *Help Desk/Windows Administration Goals*

- Strive to:
  - Improve overall efficiency
  - Decrease cost of IT support
  - While maintaining high quality IT support:
    - *Minimal response times, follow-up, service with a smile, resolve problems to the user's satisfaction,...*
- How?
  - Standard PC hardware
  - Standard PC software: operating system and applications
  - Standard PC Windows image
  - Evolving PDA standards as industry matures
  - Remote administration
  - **Communication with users**
- APS User feedback regarding Help Desk
  - Invaluable
  - Used as a compass to guide future directions

## ***APS Windows Desktop Administration Accomplishments FY2005***

- On average, 22 new help desk cases/day
- Closed 2,100 Windows PC help desk requests
- Deployed 101 new Windows PCs
- 35+ Recycled PCs
- 59+ PCs sent to surplus
- Virtually eliminated Windows NT in APS
  - 8 NT systems tied to instruments and special applications
- Made great strides in eliminating cyber security vulnerabilities
  - September 2005 scans reported no windows desktop deficiencies
- Have switched our support model to remote administration and assistance
- Performed inventory all Microsoft client software: Windows, Office and other applications within APS to comply with Laboratory call
- Performed upgrades of Microsoft Office, removed unnecessary Microsoft software: Front Page, Visio,... on APS Windows desktops
- Contributed to other APS projects: wireless upgrades,...

## *PC Recycling Initiative*



## *Windows Desktop Initiative*

- Migration to Windows XP within APS
  - remote administration and assistance
  - 465 Windows XP PCs and Laptops\*
  - 304 Windows 2000 PCs and Laptops\*
  - 8 Windows NT PCs
- Windows 2K to XP upgrade project in progress

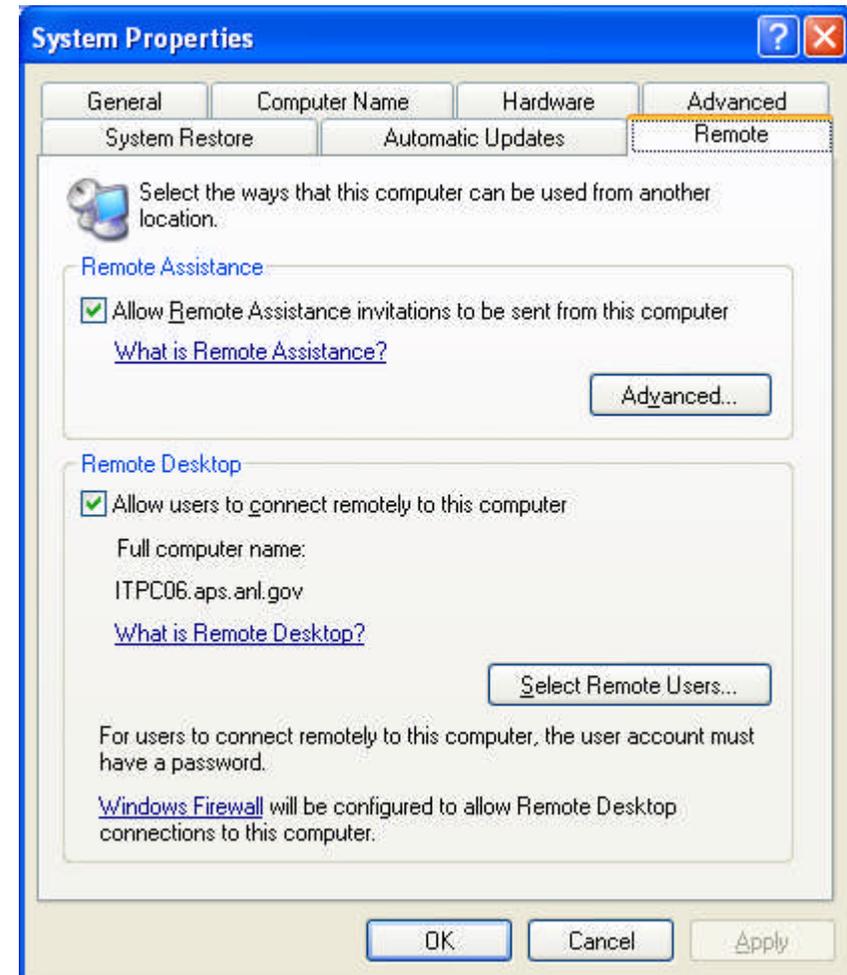
\*Including home systems

## *APS Standard Windows Operating System*

- Why standardize on Windows XP?
  - Improved security
  - Improved mobile computing support
  - Enables remote support infrastructure
  - Improved device support (PnP)
  - Improved power management

## Windows XP Remote Administration

- Remote Desktop Connection
  - Admin logs in and takes over PC Console
  - User can access their desktop and hard drive from anywhere\*
- Remote Assistance
  - Remote Assistance
    - *Admin requests Remote Assistance connection*
    - *User approves*
    - *Admin joins user session with user's profile*
    - *Both user and admin viewing console and interacting with operating system and applications*



## *Windows XP Hardware Requirements*

Component	Microsoft Minimum Requirement	Microsoft Recommended Requirement	APS Minimum "Practical"* Requirement
Processor (1-2)	P2 233 MHz	P2 300 MHz	<b>P3 500 to 866 MHz</b>
RAM	64 MB	128 MB	256 MB

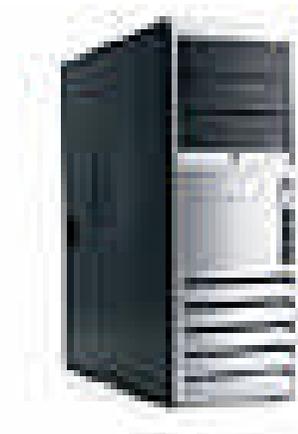
\*Practical: Based on resource requirements of today's operating system and applications

## Intel Processor Evolution

Year	Processor	Processor Speed (MHz)
1982	80286	8 to 12.5
1985	80386	16 to 33
1989	80486	25 to 100
1993	Pentium	60 to 200
<b>1997</b>	<b>Pentium II</b>	<b>233 to 450</b>
<b>1999</b>	<b>Pentium III</b>	<b>450 to 1400</b>
2000	Pentium 4	1300 to 3800

**500-866 MHz** ←

- Current APS Standard Desktop unit:
  - HP Compaq dc7100 Convertible Mini-tower
  - **3.2 GHz**, 512 MB, 40 GB hard drive
  - **Factor of 10 times faster than P2 technology : in use at the APS**



## *IT Cost Savings can be Realized at the APS*

### ■ Elimination of outdated PC hardware

- 499 APS Employees
- 780 Windows PCs (not including servers)
- 1.5:1 ratio of PCs to Employees
- P2 and early P3 technology (233 to 750 MHz) is 6-8 years old
  - ***Painfully slow to service and use***
  - *Below APS “practical” minimum requirement*
  - *Need to be replaced*

### ■ Progress in past year

- 11/10/2004  $\leq$  450 MHz PCs: 70
- 10/12/2005  $\leq$  450 MHz PCs: 38
- **In past year,  $\frac{1}{2}$  of  $\leq$  450 MHz PCs have been eliminated**

### ■ Today, $\leq$ 750 MHz PCs: 135

- Still work to be done

## *Windows Administration Staffing Level*

- Last hire, M. Westbrook 02/2004 as a replacement (T. Smith)
- Last increase in Windows administrators was 2000 with hire of C. Dannenberg
- Since 2000, 8 Windows administrators have been supporting “*more and more*”:
  - PCs, laptops, and tablet PCs
  - Beamline PCs
  - Techno-gadgets
  - Operating System migrations: W98 and NT4->W2K->WXP
  - Others
- **Keeping up has been a challenge that we continually strive to meet**
- **When short-handed, response time and quality of service suffer**

## *Variety of Other PC Equipment Supported on a Daily Basis*

- Variety of PDAs
- Modems cards
- Printers and plotters
- Scanners (local and network-based Canon)
- Projectors
- Wireless Access Points
- Wireless NICs
- Wired and wireless routers for home use (Linksys)
- Web cameras
- Computer-based Oscilloscopes
- Digital cameras
- Various peripherals: floppy drive, disk drives, USB memory sticks, card readers, track balls, wireless keyboards and mice
- Card Key Systems
- Vocera wireless transmitter/receiver

## *Windows Desktop Administrators*

- Ryan Brody
- Tad Budraitis
- Tim Hentsch
- Christy Dannenberg
- Steve Potempa
- Darryl Reigle
- Jason Stevens
- Mary Westbrook

## *Questions?*

- Thank you for you time and attention

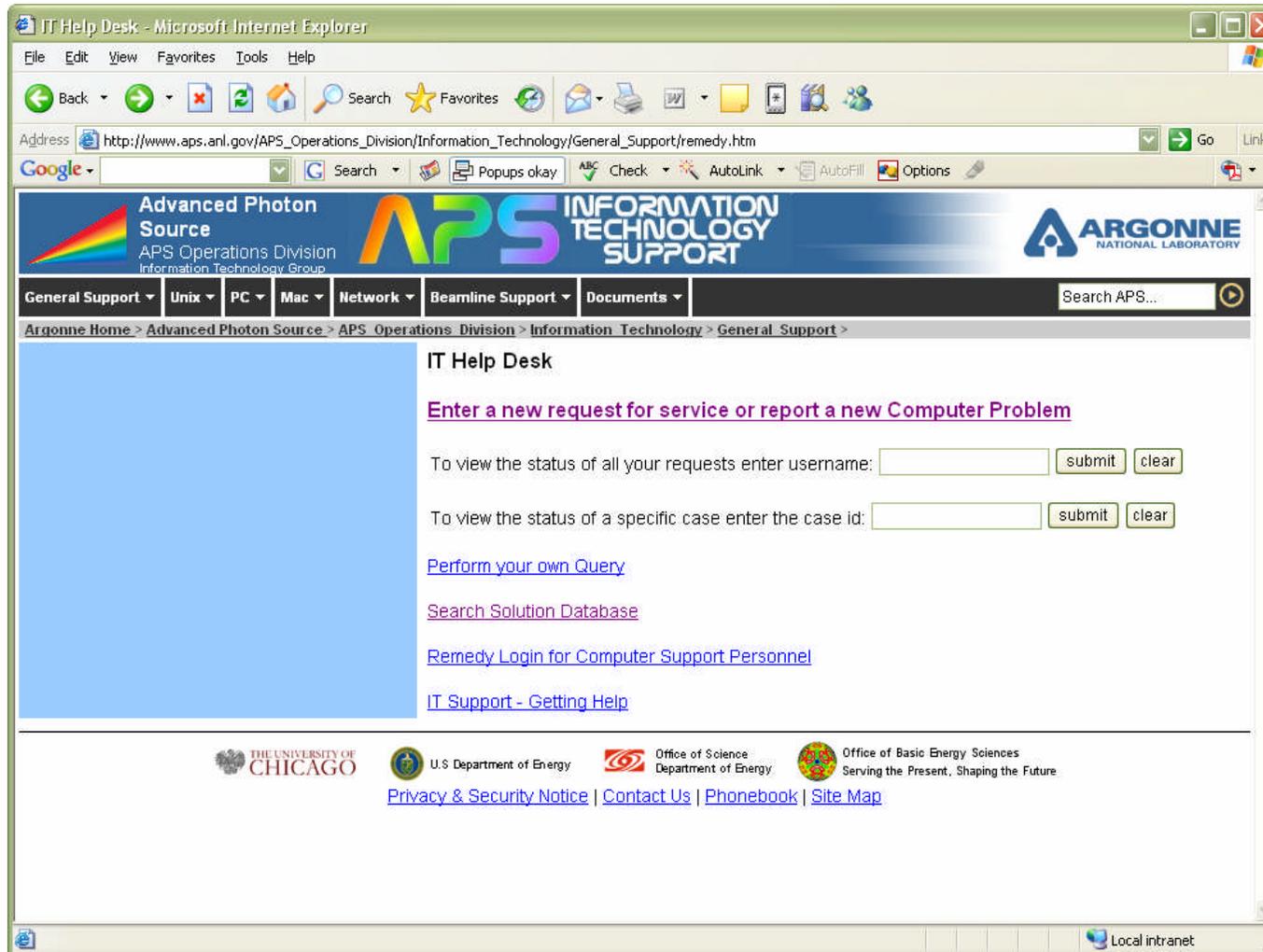
## *What's included in Windows Desktop Administration? (1)*

- PC Hardware: Desktops, Laptops and Tablet PCs
  - New Installations
  - LAN integration
  - Replacements and Upgrades
  - Warranty claims through vendors
  - Research hardware upgrades
  - Surplus equipment
- Microsoft Software
  - Windows Operating System, IE and Office Suite
    - *Maintain current Windows Service Pack levels*
    - *Upgrades and recommended updates*

## *What's included in Windows Desktop Administration? (2)*

- Other Software
  - McAfee antivirus
    - *Maintain current engine and definition files*
  - Other applications
    - *Citrix ICA client, Exceed, PSP, Acrobat, Dreamweaver, Autocad, ...*
    - *Work with vendor to resolve technical and licensing issues*
- Email client
- Maintain Windows PCs current with ANL and DOE cyber security policies
- Password assistance
  - LDAP (Unix and Email)
  - APS Windows Domain
  - ANL Domain
- Proactive approach to desktop support

## IT Support Request Web Page



The screenshot shows a Microsoft Internet Explorer browser window displaying the IT Help Desk page. The address bar shows the URL: [http://www.aps.anl.gov/APS\\_Operations\\_Division/Information\\_Technology/General\\_Support/remedy.htm](http://www.aps.anl.gov/APS_Operations_Division/Information_Technology/General_Support/remedy.htm). The page header includes the logos for Advanced Photon Source, APS INFORMATION TECHNOLOGY SUPPORT, and ARGONNE NATIONAL LABORATORY. A navigation menu contains links for General Support, Unix, PC, Mac, Network, Beamline Support, and Documents, along with a search box labeled "Search APS...". The breadcrumb trail reads: Argonne Home > Advanced Photon Source > APS Operations Division > Information Technology > General Support >. The main content area is titled "IT Help Desk" and features a purple link: "Enter a new request for service or report a new Computer Problem". Below this are two input forms: "To view the status of all your requests enter username:" and "To view the status of a specific case enter the case id:", each with a text input field and "submit" and "clear" buttons. Further down are links for "Perform your own Query", "Search Solution Database", "Remedy Login for Computer Support Personnel", and "IT Support - Getting Help". The footer contains logos for The University of Chicago, U.S. Department of Energy, Office of Science, and Office of Basic Energy Sciences, along with links for "Privacy & Security Notice", "Contact Us", "Phonebook", and "Site Map". A "Local intranet" icon is visible in the bottom right corner of the browser window.

## Ease of IT Problem Submission & Monitoring

AR System Submit to Schema "HD-HelpDesk" on Server "ra" - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Mail Print Address Bar

Address <http://helpdesk.aps.anl.gov/ars/cgi-bin/arweb?Form=useschema&s=ra&S=HD-HelpDesk&Act=Submit> Go Links

Google Search 76 blocked Check AutoLink AutoFill Options

### APS Computer Support



Please use this form to report any computer related problems or to request help from Computer Support. The appropriate CS staff will be notified via email of your request. All fields in this form must be completed.

[Username or Badge# \(Required\)](#)

[Case Category \(Required\)](#) [Priority](#)  
 Low

[Short Description \(Required\)](#)

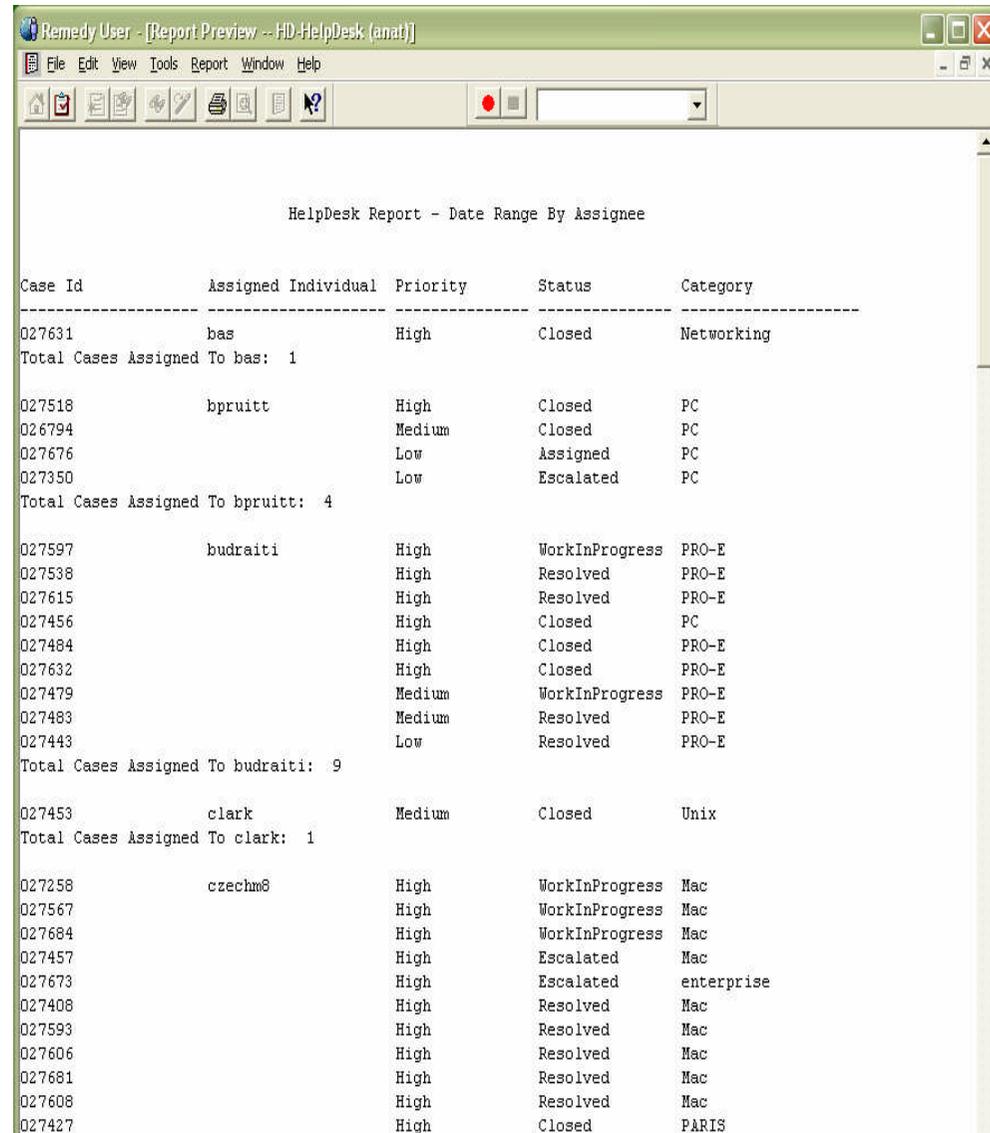
[Details \(Required\)](#)

Click on  or  to start over.

Local intranet

## Support Access to APS IT Help Desk

- Support staff can perform the following tasks:
  - Create, update, and resolve support requests
  - Search for and view assigned support requests
  - Create and look up potential solutions to support requests
  - Create support requests
  - Track requester information
  - **Generate reports**



Remedy User - [Report Preview -- HD-HelpDesk (anat)]

File Edit View Tools Report Window Help

HelpDesk Report - Date Range By Assignee

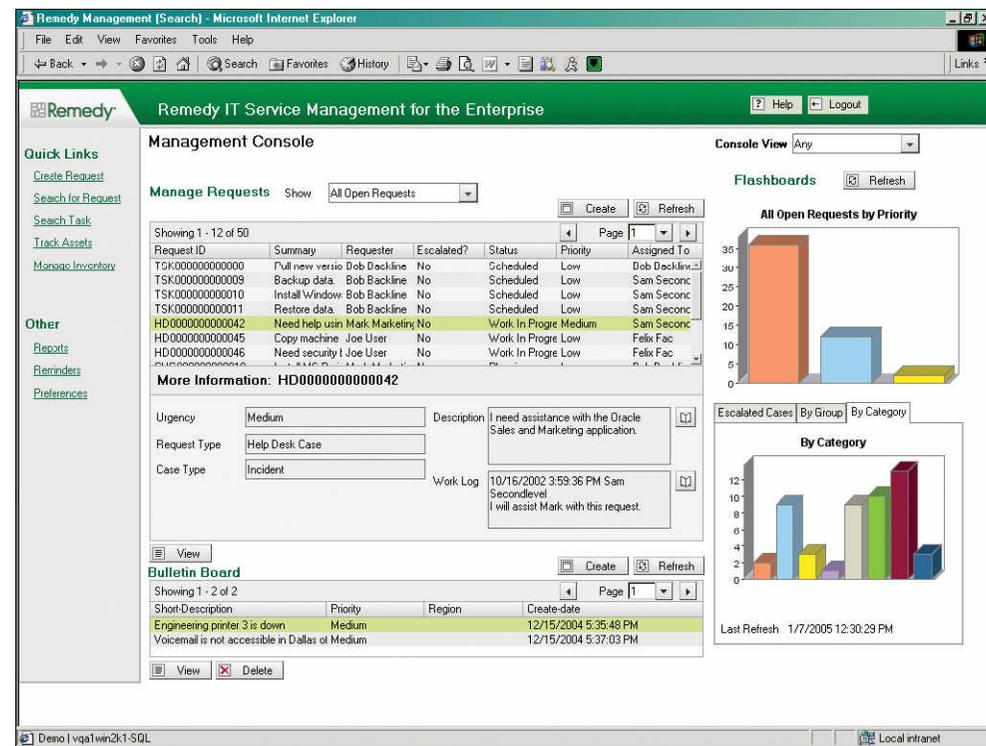
Case Id	Assigned Individual	Priority	Status	Category
027631	bas	High	Closed	Networking
Total Cases Assigned To bas: 1				
027518	bpruitt	High	Closed	PC
026794		Medium	Closed	PC
027676		Low	Assigned	PC
027350		Low	Escalated	PC
Total Cases Assigned To bpruitt: 4				
027597	budrait	High	WorkInProgress	PRO-E
027538		High	Resolved	PRO-E
027615		High	Resolved	PRO-E
027456		High	Closed	PC
027484		High	Closed	PRO-E
027632		High	Closed	PRO-E
027479		Medium	WorkInProgress	PRO-E
027483		Medium	Resolved	PRO-E
027443		Low	Resolved	PRO-E
Total Cases Assigned To budrait: 9				
027453	clark	Medium	Closed	Unix
Total Cases Assigned To clark: 1				
027258	czechm8	High	WorkInProgress	Mac
027567		High	WorkInProgress	Mac
027684		High	WorkInProgress	Mac
027457		High	Escalated	Mac
027673		High	Escalated	enterprise
027408		High	Resolved	Mac
027593		High	Resolved	Mac
027606		High	Resolved	Mac
027681		High	Resolved	Mac
027608		High	Resolved	Mac
027427		High	Closed	PARIS

## ***New Remedy Help Desk Version 6.0***

- Remedy Help Desk upgrade of the current system's hardware and software, including:
  - Setup and installation of a new server
  - Installation of the latest server and help desk application software packages
  - Customizing the out-of-the-box application to meet our needs
  - Manually importing data
  - Full testing before deployment

## Benefits of the Remedy Help Desk v6

- Vendor support
- Enhanced user interface
- Built in knowledge base
- Self-service options for users
- Increased reporting options



The screenshot displays the Remedy IT Service Management for the Enterprise interface. The main section is the 'Management Console' for 'Manage Requests'. It shows a table of requests with columns for Request ID, Summary, Requester, Escalated?, Status, Priority, and Assigned To. The selected request ID is HD000000000042.

Request ID	Summary	Requester	Escalated?	Status	Priority	Assigned To
TSK000000000000	Full new versio	Bob Backline	No	Scheduled	Low	Bob Decklin...
TSK000000000009	Backup data.	Bob Backline	No	Scheduled	Low	Sam Secon
TSK000000000010	Install Window	Bob Backline	No	Scheduled	Low	Sam Secon
TSK000000000011	Restore data.	Bob Backline	No	Scheduled	Low	Sam Secon
HD0000000000042	Need help usin	Mark Marketing	No	Work In Progre	Medium	Sam Secon
HD0000000000045	Copy machine	Joe User	No	Work In Progre	Low	Felk Fac
HD0000000000046	Need security	Joe User	No	Work In Progre	Low	Felk Fac

**More Information: HD0000000000042**

Urgency: Medium  
 Request Type: Help Desk Case  
 Case Type: Incident

Description: I need assistance with the Oracle Sales and Marketing application.

Work Log: 10/16/2002 3:59:36 PM Sam Secondlevel I will assist Mark with this request.

The interface also includes a 'Bulletin Board' section with a table of recent events:

Short-Description	Priority	Region	Create-date
Engineering printer 3 is down	Medium		12/15/2004 5:35:48 PM
Voicemail is not accessible in Dallas of Medium			12/15/2004 5:37:03 PM

Additional features include 'Quick Links' (Create Request, Search for Request, Search Task, Track Assets, Manage Inventory), 'Other' (Reports, Reminders, Preferences), and 'Dashboards' (All Open Requests by Priority, Escalated Cases, By Category). The interface is viewed in Microsoft Internet Explorer.