CIT’s Integrated AV Engineering
(a.k.a. Classroom Technologies)

Services Highlights for Facilities
Project Managers
Integrated AV Engineering (iAVE)

Items to be covered:

- New name and updated mission
- Service/program areas (w/ emphasis on AV facilities)
  - AV Design and Project Management
  - Equipment Recommendations & Tech Direction
  - Video Infrastructure
- FAQ’s/Lessons Learned for Integrating AV

contact: gb47 or 5-8985
Integrated AV Engineering (iAVE)

- Group formerly known as Classroom Technologies
  - New name better describes evolved focus
    - Broader application of expertise to include classrooms as well as conference rooms and/or other specialized spaces
    - Narrower focus on engineering & infrastructure backline vs. day to day operations and support
- Services into two main program areas
  - A/V Facilities Design
  - Video Infrastructure

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AV Facilities Design Service

- **Fee Based**
  - Design work performed under Service Agreements

- **Appropriated**
  - General equipment recommendations & technology direction

- **Design staff Infocomm CTS-D certified**

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AV Facilities Design Service

iAVE Design Work Flow

Procurement → Oversight

Design

Space Programming → Contract Documents

Docs & Training

Certificate of Occupancy → Construction

Contract Documents

Construction

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AV Facilities Design Service

Design
- End User survey/needs assessment
- Review/author AV program for space
- Provide conceptual “what’s possible” vision
- Attend Design/Planning Meetings
- Work-up budget estimates as well as detailed specifications

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AV Facilities Design Service

Procurement

- Create bid/quote technical documents from existing boilerplate
  - Preferred Vendor “Scope of Work”
  - Input to Full “CSI” Bid Spec Section
- Evaluate vendor responses
- Recommend vendor for job
- Recommendation for completion/payment

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AV Facilities Design Service

Installation Oversight

- Review timeline and coordination
- “Kick-off” meeting (on-site) for coordination
- On-site monitoring and compliance
- Commissioning: performance testing and acceptance recommendation

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AV Facilities Design Service

- Documentation/Training
  - Approve vendor documentation
  - Merge iAVE documentation
  - Assist with End User training
  - One-on-one College/Unit tech support specialized training and back-line support

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AV Equipment Recommendations & Technology Direction

Standards

Planning & Programming Design Procurement/Install Commissioning/In Use

- Facilities Project Manager Guide (update AV section)
- Architect's DD Submittal Requirements (AV addendum)
- Design Standards - Audio-Video Equipment Spec Boilerplate
- Standard Details - Audio-Video Typical Detail Sketches
- Project Specific Construction Documents (AV Section)
- Project Specific Commissioning & Training (AV Section)
- Close out "As-Built" Documentation


CU Space Planning Guidelines (AV Addendum) FABIT Room Technology Tier List InfoComm BP & Standards Purchasing Services & Contracts AV Procurement Process InfoComm PI Commissioning Cornell Buildings Others Update Ivy Plus Space Rubric Lessons Learned

Cornell University AV Design/Build "Widgets" Chart

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AV Equipment Recommendations & Technology Direction

Large Project AV Design Consultant Selection (handout)

- Ensure the consultant is independent
- Previous successful experience on University projects.
- Industry certification (especially CTS-D)
- Awareness of industry and University Standards and Best Practice
- Availability to make timely visits to Cornell campus throughout project

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AV Equipment Recommendations & Technology Direction

- **A/V Control Panel Guidelines (handout)**
  - Guidelines establishes AV control system interface layouts and guidelines for touch panel and button panel interfaces.
  - Which system type used depends on the room A/V system complexity.
  - Proper application is expected to be accomplished by teams of professionals familiar with applying the guidelines.

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AV Equipment Recommendations & Technology Direction

- Minimum AV Tech Spec’s (handout)
  - Acoustics/Sound System
  - Accessibility
  - Electrical
  - Control Systems
  - Room Lighting/Window Treatments
  - Teaching/Presentation “Station”
  - Video Display/Screens
  - Videoconferencing/capture

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AV Equipment Recommendations & Technology Direction

♦ FABIT Technology Tier Levels (handout)

♦ Tier 1
  - Basic in room AV presentation
  - Supports portable source equipment

♦ Tier 2
  - Tier 1 plus dedicated source equipment
  - More advanced AV controls

♦ Tier 3
  - Tier 2 plus interactive video
  - Specialized spaces and/or technology

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AV Equipment Recommendations & Technology Direction

Current Supply Management Preferred AV Integration Vendors

- Audio Video Corporation
- Presentation Source
- Toshiba AV Solutions

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CIT/DLS Systems Design Service

Q & A

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Video Infrastructure Highlights

德育化 Video Services (backline)

- CUView (new in Oct ‘10)
  - Campus digital signage with University Communications
- Webcasting – Hosting (Rich Media)
  - Live and On Demand presentation streaming
- Multi-point Videoconferencing (SIP & H.323)
  - Bridging and Transcoding
- Desktop Conferencing (non standards based)
- Video Streaming
  - Digital Asset Management (new in 2012)
  - HQ video distribution (broadcast/overflow)

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AV Technologies To “Watch”

AV Technologies Watch List/Futures

- “Analog Sunset”
  - VGA connector going away
- Unified Communications
- Migration to UTP cabling
  - More net centric AV (i.e. IP displays)
- HD everything – “telepresence”
- Multi-image processing (Picture Outside of Picture)
- 3D displays

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“FAQ” (Lessons Learned)

General

- Early involvement of AV/IT Systems Design
- Use Preferred Suppliers
- Equipment standardization
- Room tier levels

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“FAQ” (Lessons Learned)

Display/Video

- Image height typically $1/6^{th}$ distance from screen to furthest viewer
- Videoconferencing image next to camera for far site
- Maintain sight lines (participant to screen and camera to participant)
- Planning for changed aspect ratios 16:9/16:10

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“FAQ” (Lessons Learned)

Sound System/Audio

- Highest priority on speech intelligibility
- Address room acoustics first, then provide sound system as needed
- Ability to exceed “ambient” sound level by 20 dB.
- Hearing Impaired system compatible with IR standard

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“FAQ” (Lessons Learned)

Media Control/Automation

- Compliance with “CU Touchpanel Guideline”
- Consider end user access/control vs. technician

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“FAQ” (Lessons Learned)

Other

- All components of AV system on same electrical phase. Single ground for system, especially for audio.
- Logical and accessible layout of frequently used equipment.
- Convection heat dissipation (not forced fan) wherever possible
- Complete and consistent documentation and labeling
For More Information

Contact Greg Bronson, gb47 or 255-8985.