IHE-RO Technical Committee
December 15-19, 2008
8:00-5:00 PM
Hampton Inn in Mountain View, CA

Technical Committee Chairs:
Bruce Curran, MS, ME
Stuart Swerdloff, PhD

Attendance

Name	Affiliation	Dates
Walter Bosch	ASTRO / ATC	15, 16, 17, 18, 19
Harold Beunk	Nucletron	15, 16, 17, 18, 19
Andrea Morgan	Calypso Medica	15
Ulrich Busch	Varian	15, 16, 17, 18, 19
Kurt Weimann	Siemens	15, 16, 17, 18, 19
Peter Selby	Medcom	15
Koua Yang	Philips	15,16,17,18, 19
Ashutosh Shirsat	Siemens	15, 16, 17, 18,
Bernd Becker	Siemens	15, 16, 17, 18, 16
Sam Brain	Stanford	15, 16, 17, 18, 16
Mark Sinclair	Vision RT	15, 16, 17, 18, 16
Colin Sims	Accuray	15
Stuart Swerdloff	Impac/Elekta	15, 16, 17, 18, 16
Justin Cambra	Accuray	15
Sanjay Bari	Impac/Elekta	16,17,18
Colin Winfield	Elekta	15,16

MEETING NOTES (Cumulative)

Meeting Schedule

Mon.	12/15/08	Start 8:30am	Adjourn 5:15pm
Tue	12/16/08	Start 8:40am	Adjourn 6:05pm
Wed	12/17/08	Start 8:15am	Adjourn 5:30pm
Thu	12/18/08	Start 8:05am	Adjourn 4:59pm
Fri	12/19/08	Start 8:30am	Adjourn 11:35pm

I. Call to Order **8:30 am 12/15/08**
   a. Welcome and Introduction
   b. Approval of Agenda – approved **9:20 am**
      - Patient Positioning (12/15)
      - Advanced Object 2009 Profiles Extensions
      - Work on 4.0 Profiles (Prescription?)
      - IHE-RO/J Use Case
      - Test Data for Treatment Delivery Workflow Connectathon
      - New Transactions (RT Ion Plan)
      - Review 2008 Demonstration / Public Demo 2009 – Options
      - IHE-RO information (RFP) on ASTRO website
      - Integrations statements from vendors

- Dose Compositing

c. Approval of Minutes from September 24, September 25-27 and November 20, 2008 – approved **9:22 am**

II. Reports & Updates

a. Work on Discrete Patient Positioning Profile - **Monday, December 15**

New discrete framework – Uli

- Specification for (1) Patient positioning by 3rd party device prior to delivery, and (2) Monitoring of patient position by 3rd party device during delivery.
- Review of IHE_RO_Volume2_2009_DiscretePositioning.doc including
  - Discrete Positioning Workflow
  - Discrete Delivery Workflow
  - Discrete Delivery and Monitoring Workflow
- Need to distinguish real-time interoperability modes:
  - **Real-time tracking** (real-time adjustment of treatment delivery parameters to keep target in beam – with beam on)? → Not in current scope.
  - **Real-time interlock** (beam on interlock) → In scope?
  - **Real-time monitoring** (passive recording of target position) → In scope
- Review of UPS Final Update in IHE_RO_TF_3.0_Volume2.doc
- Review of IHE_RO_Positioning.vsd (Interaction Diagram involving Achive, Treatment Delivery Device (TDD), Treatment Session Manager (TSM), and ~~Patient Positioning System (PPS)~~ Patient Position Verification System (PPVS))
- Discrete Patient Positioning (Online):
  - It is expected that there is one **Treatment Session Manager (TSM)** instance per TDD.
  - Relationship between TMS and TSM: The TSM sequences the delivery of a patient's therapy session, while the TMS maintains information for all sessions of multiple patients.
    - ~~PPS~~ PPVSretrieves Discrete Positioning/Monitoring Worklist instructions from TSM, i.e., UPS Positioning Instruction object instance (currently in development in WG-7)
    - ~~PPS~~ PPVS retrieves Worklist input objects (???) from Archive
  - Confusion over term Patient Positioning System (PPS) – term implies capability to move patient: Use **Patient Position Verification System (PPVS)** – *acquires* patient position information based on mode of operation requested by UPS.
  - Store Position Acquisition Results to Archive *before* UPS Final Update to signal validity of acquisition data.
  - How can historical positioning information (prior sessions) can be used to modify future sessions? → Use Treatment Delivery Request UPS (or object(s) referenced by UPS) to specify adjustments to RT Plan instances.
  - Discussion of hazard involving manual adjustment of table position during acquisition and adjustment of patient position. TDD must acquire (absolute) reference table parameters *prior* to acquisition of position information by PPVS and re-acquire absolute table parameters before adjusting patient position. [Feedback to WG-7: need to communicate absolute table parameters between TDD and PPVS prior to acquisition of patient position (RT Position Modification Request).]

- Adjustment of patient position need to be assessed with respect to tolerances and may require human intervention in order to be performed safely.
- Should be RT Position Modification instances generated by the PPVS be stored in Archive/TMS? Yes, either (a) Store RT Position Modification Request instance to Archive and reference that instance in a workflow request (UPS) to the TSM or (b) Store RT Modification Request to both the Archive and TSM.
- Should we split (integrated) Patient Position Verification System (PPVS) into Position Acquisition and Position Registration Actors to support offline position verification? → **No**. Different PPVS actors use diverse technologies and exposing interfaces between acquisition and registration would involve too many types of information. There is no compelling clinical reason to handle this complexity.
- Should we keep the Acquire Position step separate from the Perform Registration step, or should these steps be combined? Ok to keep Acquisition and Registration as sequential steps.

- Discrete Positioning and Monitoring
  - PPVS must know when TDD is delivering radiation. This is done by subscribing to event updates of Treat UPS Status. Need preparation phase before Beam On to tell PPVS what status (i.e., Beam number(s)) to watch. [May need to address clock synchronization between systems.]
  - Discussion of how to deal with "out of tolerance" condition during delivery – no real-time tracking with beam on.
- Consensus of the PPVS vendor reps that approach outlined above is workable.

b. Review Drafts of Advanced Object 2009 Profile Extensions – (12 hrs)
- BBS thread created for "Advanced RT Objects Interoperability" – documents from Boston (9/2008) meeting posted
- Review of IHE-RO_RTPlan_WP.doc Beam Modifiers matrix: Should this information be incorporated in IHE-RO Integration Statement (Appendix?), or in a DICOM Conformance Statement? → **Integration Statement**
  - What about beam modifier information that is optional for producers, e.g., Static Wedge for Step and Shoot technique? Must this information be supported by consumers of the objects?
- Review of 2009_AdvancedObjects_VMAT_1008-12-16.xls **attribute level requirements for IMAT/VMAT** (Cell entries in spreadsheet indicate requirements for Geomentric Planner and Dosimetric Planner Actors, respectively. Additional requirements for IMAT/VMAT apply to Dosimetric Planner only.) See Uli's updated document (BBS) for details.
  - Do we want to specify an upper bound on the number of control points?
  - **Nominal Beam Energy:** allow multiple energies within one beam? I.e., represent multiple arcs with multiple beams or a single beam? Patent issues involved? [TBD: need more clinical input]
  - **Controversy regarding whether to follow a strict interpretation of DICOM coding rules, which (implicitly) prohibit the repeated specification of control point parameters whose value does <u>not</u> change during a beam**. (See DICOM PS 3.3 – 2008 Section C.8.8.14.5.)
  - Isocenter Position: R+ or R+*? TBD
  - Require Patient Surface Entry Point or SSD (DICOM Type 3 attributes)?

- Review of 2009_AdvancedObjects_VMAT_1008-12-16.xls **attribute level requirements for other Beam Profiles (treatment techniques).** See Uli's updated document (BBS) for details.
  - Should Static Wedge, Motorized Wedge, Virtual Wedge be called out as Beam Profiles? Can they be handled as alternatives within a single Beam Profile?

- **Step and Shoot Beam Profile** – What constitutes a Beam? **At present, we restrict parameter changes in Step and Shoot Beam to MLC leaf positions and Collimator Jaw positions. Open question: can we allow collimator or gantry rotations within a beam?**
  - Constrain number of control points to 2n.
  - Cumulative Meterset Weight is 0.0 at CP[0] and constant between CP[2m+1] and CP[2m+2] for m=0,…,n-1.
  - **Static Wedge** beam modifier is specified as an option for **Step and Shoot** in RT Advanced Object White Paper table. Is this correct?

- **Open question:** What is the intent of the dots in Beam Profiles table in the IHE-RO RTPlan_WP.doc white paper? **Action item → Colin Winfield, Bruce Curran, Scott Johnson to clarify what it means that beam modifiers are "allowed" for each Beam Technique**
  - Does the presence of a dot mean the beam modifier must be supported by consumers of the object? If so, several vendors take exception to the presence of some of the dots.
  - Does the absence of a dot mean the beam modifier will never be encountered in plans for that Beam Technique?
- Which Actor is the consumer of the Advanced RT Objects Profile plans? **→TMS** (see minutes of 9/2008 Boston Meeting). Thus, the profile addresses interoperability between the TPS and the TMS. The TPS (Dosimetric Planner) must also be able to read plans in compatible classes (Beam Types). Can edit plan and re-calculate dose.

- **Sliding Window Beam Profile** –
  - Constrain to one MLC
  - Physical wedges allowed? TBD
  - Do we want to specify an upper bound on the number of control points?
  - See Uli's updated document (BBS) for details.
  - **Static Wedge** beam modifier is specified as an option for **Sliding Window** in RT Advanced Object White Paper table. Is this correct?

- **Conformal Arc Beam Profile** – (Jaws, MLC, and Bolus only)
  - Constrain to one MLC
  - Do we want to specify an upper bound on the number of control points?
  - Two styles of conformal arc delivery: step-and-shoot and sliding-window – interoperability issues in supporting either or both?
  - See Uli's updated document (BBS) for details.

- **Options for Advanced RT Objects Actors, Transactions** (S. Johnson email 12/16)
  - **Separate Actor/Transacton for each Beam Type**; Beam definition transaction is mandatory, modifier transactions are optional ← Consensus that this is the more tractable option
  - **Single "Advanced Object" Actor** with separate, optional transactions for beam types and modifiers

- **Open question: How do we address the combinatorics of optional support (for Beam Modifiers)? E.g., some pairs of beam modifiers are rarely used together**

in clinical practice. What if a vendor supports either option, but not both together? How does one specify exceptions to full support for any subset of listed options? Do we need to identify in the profile, the alternative options that need not be supported in combination? Examples:

- **MLC and block**
- **Compensator and MLC**
- **Wedge and compensator**
- **…**

- **(Simple) Arc Beam Profile** – no change in aperture, two control points
  - Constrain to 0-1 MLC
  - Number of control points constrained to 2 (no "Skip Arcs")
  - No **Blocks** are indicated as beam modifiers for **Arcs** in RT Advanced Object White Paper table. Is this correct?
  - See Uli's updated document (BBS) for details.

- **Electron Beam Profile** – no change in aperture, two control points
  - Static field: 2 control points
  - See Uli's updated document (BBS) for details.

- Discussion regarding request to make **Table Top Vertical/Longitudinal/Lateral Setup Displacement** Mandatory in Patient Setup Technique Module. Suggestion that one needs to distinguish between "absolute" and "relative" setup. Is this relevant (for initial, pre-imaging setup) with IGRT? → Actors that consume plans must accept and preserve **Table Top Vertical/Longitudinal/Lateral Setup Displacement** attributes, if present.
  - Should this information be required from producers of this object?

- **Review of non-beam-specific requirements for Adv RT Objects Profile** (10:20am 12/18/08)
  - Add Module Table to the RT Objects Profile → make Frame of Reference, Prescription, Patient Setup, Fraction Scheme modules Mandatory (M) for this Profile
  - Patient Position (0018,5100) attribute in General Series Module should not be used for treatment position; use Patient Position (0018,5100) attribute in the Patient Setup Sequence in Patient Setup Module, instead.
  - Display Position Reference Indicator (0020,1040) if present (O+) ➔ Review for clinical relevance of this information
  - Require display of Plan Description (O+) if present
  - Require Dose Reference UID (300A,0013) and Dose Reference Description (300A,0016) if Dose Reference Sequence is present. Dose Reference Sequence must be preserved and propagated.
  - Allow multiple Patient Setups in a plan?
  - Setup Technique is R+*
  - Table Top Displacements – details will follow – see notes above from discussion 12/16/08
  - Note that some attributes requirements may preclude use of these Adv RT Objects Beam Types with a Geometric Planner actor.
  - Review of SOP Common attributes

- **Uli to Post 2009_AdvancedObjects_2008-12-18.xls** to BBS.

- [12/17/08 8:15am] Resumption of discussion regarding Table Top Vertical/Longitudinal/Lateral Setup Displacement present. ➔ **Ashutosh to identify use cases** making Table Top Vertical/ Longitudinal/ Lateral Setup Displacement Mandatory in Patient Setup Technique Module.

Resume work on Review of 2009 AdvancedObjects **attribute level requirements**
See Uli's updated document (BBS) for details.

- **Basic Static Beam Profile**
  - Should this profile cover Cobalt?.**No. Create a separate Cobalt Beam Type.** (Primary Dosimeter Unit is MU for this Beam Type.)
  - Need to add requirements for Compensator Tags
  - Clinical Review needed here: Should Surface Entry Point (300A,012E) and/or Source to Surface Distance (300A,0130) be required (R+) for FIXED_SSD Patient Setups? Need clarification of use case.
  - Compensator Type: STANDARD only, if present

- **Motorized Wedge Beam Profile**
  - Do we need to constrain whether open segment or wedged segment comes first?

- **Virtual Wedge Beam Profile**

- **Specific Rules that Apply to All Beam Profiles**
  - Added column to spreadsheet for **Specific Rules that apply to all Beam Types**
  - Treatment Delivery Type (TREATMENT and SETUP only): R+*

  ➔ We need to clarify which Actors are *consumers* of 2009 Advanced Object plans. **The working assumption is that the TMS is the primary consumer.** Is the Dosimetric Planner also a consumer (re-planning use case)?

  - **Revised Beam Profiles / Beam Modifiers Table** (12/17/08 10 am)
    - Specify R=required or O=optional for each Beam Type, Beam Modifier pair
    - Start with *Producers* table. (Do we need a separate table for Plan Consumers? What about Dosimetric-Planner-as-Consumer for re-planning? Separate requirements for TMS Consumers *vs.* Dosimetric Planner Consumers?)
    - Split Static Beam Type into "Static" (no wedges) and "Hard Wedge" (wedges required) Beam Types.
    - Make Block and Compensator Beam Modifiers optional
    - **Can we make Bolus optional? Yes, Bolus is not fully supported in all TPS.**
    - **Additional interoperability issues:**
      - Operational modeling of MLCs (Leaf gaps, closed leaf with- or without gap, parking of closed leaves, leaf shapes)? ➔ Subgroup (Harold Beunk, Kari Jyrkalla, …) to draft **white paper identifying MLC operational modeling issues**
      - Dose reference points?

c. Work on 4.0 Profiles – Use cases from Planning Committee

- Review of Dose Compositing White Paper v0.7 (12/17/08 - Walter)
  - Reviewed attributes for Dose Compositing Plan Retrieval and Dose Reference Plan Storage (12/18/08)

- **Decision to adopt the following Use Cases for 2010 Profiles:**
  - **Dose Compositing (Registered Dose Compositor, Composite Dosimetric Planner)**
  - **Discrete Positioning and Delivery**
  - **Prescription Automation (RT Physician Intent IOD in devel. in WG-7)**

d. IHE-RO/J Use case (~2 hours)
- Stuart to attend meeting (Feb 6, 2009) in New Zealand
- Review of "ROSWF Review Process in Japan" slides

Review of Connectathon Fee Structure (see below)

Question regarding RT Image / Patient Position Verification Data i.e., DRRs from Dosimetric Planner (Ashutosh 9:00am 12/18/08)
- **Consider adding Patient Position Veriification Data to 2010 TF** (Part of Discrete Patient Positioning and Delivery Profile). ➔ **Add to IHE-RO/TC March 2009 Meeting Agenda**
- **White Paper: "2D/3D Patient Position Verification Data" (Uli, Ashutosh)**

e. Test Data for Treatment Delivery Workflow Connectathon (This is a workflow, *not* a content test)
- **Vendors to provide Test Data *prior to development of Test Tools*:**
  - Siemens to provide Step-and-Shoot Plan, Varian to provide 4-Field Box Plan,Tomo to provide Tomo Plan
  - Send Plans to ATC for limited distribution only to vendors who have committed to pay for 2009 test tools. (Walter: need new 2009_test_data account). Bruce needs to get commitment from vendor. Walter to provide password to TC member.
  - Data to be used only for connectathon testing.

f. Definition of new transactions: ➔ **Tabled (work for 2010 TF)**
- Retrieve RT Ion Plan
- Store RT Ion Plan
- Store minimal RT Plan object

g. Review of 2008 Demonstration / Public Demonstration 2009 – Options
- Informational IHE-RO Booth
- No demonstration in IHE-RO booth?
- "Ask your vendor about IHE-RO" signage
- Booth-to-booth demonstration (like RSNA), e.g. with "Passport"?

➔ **Tabled, referred to Planning Committee**.

h. IHE-RO information including RFP in the ASTRO website
➔ **Tabled, referred to Planning Committee**

i. Integration Statements from Vendors who passed 2008 Connectathon (Fri)

- **Vendors should send *preliminary* Integration Statements (w/o version numbers) to Bruce Curran ASAP to help him manage the status of actors tested at Connectathon.**
- **Vendors are warned that if they have not submitted Final Integration Statement(s) for released version(s) of product(s) by the time of the next connectathon, the connectathon results will be invalidated and they will need to re-test those products.**
- **The Technical Committee believes that the "Rules of Engagement" need to be made clear (posted to the wiki).**

j. Dose composing – Walter (see above 12/17/08)

III. New Business

a. Connectathon fees (Wed, ~2hr)
   - Test tools ($5000 for 1st, $2500 for each additional Actor)
   - Connectathon ($5000 for 1st system, $2500 for each additional system)
   - Public Demostration ($4000 for 1st system, $0 for each additional system)

Discussion (1:15pm 12/17/08)
- ASTRO needs an estimate of the number of vendor participants and actors, to compute fee schedule.
- 2009 Connectathon (Integrated Positioning and Delivery Workflow, Advanced RT Objects Interoperability):
  2x10 beam profile producers/consumer actors
  2x1 Integrated Positioning and Delivery Actors
  1 Archive Actor
- Typically 8-9 vendors at a connectathon, but there has been some consolidation.
- Test tools from prior years are in the public domain – no additional fees for these.
- Vendors who bring actors from prior years are providing a service to others.
- What happens if a vendor makes a good-faith estimate of the number of actors and pays their fee, and then brings a few additional actors to the connectathon? Can they pay the additional fees and test the additional actors?
- How do costs scale with the number of actors for test tools? …for the connectathon testing process?
- Need to be explicit about the cost structure. Suggestion to treat *collections* of actors, e.g., Adv. RT Objects, as a single actor, at least for the purpose of computing test tool fees.
- **Technical Committee expressed concern about there being sufficient personnel and resources for the Connectathon testing process. We need more testers! We need support for test process management.**
- Can we use the Gazelle framework for registration and test management?
- How to encourage vendor contribution of test datasets?
- Stuart to develop alternative fee calculations for review 12/19 [done 12/18].

Review of Connectathon Fee Structure spreadsheet (8:15am 12/18/08)
- Number of judges needed?
- Need preparation (test procedures, administrative support) *prior* to connectathon
- Assumption: ~2 actors / judge / day
  - General actors 2009: 7
  - Beam-specific actors 2009: 86
  - General actors pre-2009: 15
- Could vendors supply judges (from their testing departments)? How available? Who judges which systems?

- Expensive, but cheaper (and more effective) than point-to-point alternative.

Discussion of Options for Minimizing Testing and Connectathon Costs (8:30am 12/19/08)

- **Testing Procedure** for Advanced RT Objects Profile
  - Identify subsets of optional support for Beam Modifiers
  - Distribute CTs and Structure Sets (separate instance for each vendor/actor) before the connectathon
  - Vendors prepare plans according to supported subset of options
  - Demostrate "liveness" of TPS (make small change, re-calc dose) at connectathon
  - TPS exports plan to archive
  - TMS retrieves plan from archive
  - Check that what needs to be displayed is displayed in TMS
  - Check plan content on TMS against that on the TPS (paper checklist, DICOM dump/attribute viewer) for Type 1 and R attributes
- **Pre-configuration for TPS, TMS:** Distribute treatment machine specifications (with machine model) ahead of time. Can we find (and agree on) a single "super machine" which combines all capabilites in one? Probably not.. → Identify three current machines (Trilogy, Artiste, Synergy). What information needs to be provided to TPS, TMS?
  - start from Beam spreadsheets, attributes (device characteristics with DICOM Type 1 or IHE-RO R) →
    - Exercise: identified required, device-specific tags in RT Beams module (for Sliding-Window Beams), adding Config column to indicate information needed to configure TMS (and TPS)
    - TMS vendors to compare attribute list against TMS configuration requirements to Walter, Bruce by end of Jan 2009.
  -
- **Preparations**
  - Test procedure documents preparation
  - Wiki used in Munich, Mar 2008 (ask Christof); Wiki Server?
  - Administrative support (data entry?)
  - Network infrastructure (need hub for DICOM "sniffer", sniffer HW/SW)
  - Registration of actors intending to participate
- **Other testing issues**
  - Coding – for testing, do not encode accessory parameters in ID/code to avoid parsing of IDs

b. Managing re-testing of earlier technical frameworks – requires preparation and resources of vendors and testers

c. Forward compatibility of objects satisfying 2007 TF - not addressed at this meeting

Action Items

- Uli to post Adv Object Spreadsheet
- Stuart to convert Spreadsheet to Supplement by 1/5/09
- Uli to update draft of Discrete Positioning and Delivery Profile before Mar 2009 meeting

- Uli to hold T-con on Discrete Positioning and Delivery Profile Feb 2009
- Stuart to hold T-con on Adv Object Supp mid Jan 2009
- White Paper: "2D/3D Patient Position Verification Data" (Uli, Ashutosh) before Mar 2009
- White Paper identifying MLC operational modeling issues (Harold Beunk, Kari Jyrkalla, …) before Mar 2009
- T-con to discuss to MLC operational modeling white paper prior to Mar 2009
- Stuart to communicate decisions regarding 2009 Connectathon/Test tools Fee structure.
- TMS vendors to compare attribute list against TMS configuration requirements to Walter, Bruce by end of Jan 2009.
- Colin Winfield, Bruce Curran, Scott Johnson to clarify what it means that beam modifiers are "allowed" for each Beam Technique. I.e., does the absence of a dot mean the beam modifier will never be encountered in plans for that Beam Technique? Does the presence of a dot mean the beam modifier must be supported by consumers of the object? If so, several vendors take exception to the presence of some of the dots.
- Walter to follow-up with individuals responsible for action items.

IV. Future Meetings

a. IHE-RO 2009 Test Schedule: (Bruce will confirm ASTRO travel support.)
   - Domain Pre-Testing – June 3-9, 2009, Erlangen, Germany (Siemens)
   - Connectathon – Sept. 14-22, 2009, Fairfax, VA (ASTRO HQ)
     (9/14 test prep, 9/15 setup, 9/16-19,21 testing, 9/22 wrap-up)

b. IHE-RO 2009 TC Face-to-Face Meetings:
   - March 23-25, 2009 (2.5 days) Washington, DC 2010 Content Development
   - Nov. 5-7, 2009 post-ASTRO, Chicago area
   - Jan 25-29, 2010, location TBD

c. IHE-RO Potential Future T-cons:
   - Wednesday, January 14, 2009 at 12:00 - 2:00 p.m. ET
     - 2009 Adv Objects Profile Supplement
   - Wednesday, February 25, 2009 at 12:00 - 2:00 p.m. ET
   - Wednesday, April 22, 2009 at 12:00 - 2:00 p.m. ET
   - Wednesday, May 20, 2009 at 12:00 - 2:00 p.m. ET
   - Wednesday, July 15, 2009 at 12:00 - 2:00 p.m. ET
   - Wednesday, August 12, 2009 at 12:00 - 2:00 p.m. ET
   - Wednesday, October 14, 2009 at 12:00 - 2:00 p.m. ET
   - Wednesday, December 2, 2009 at 12:00 - 2:00 p.m. ET

d. Related Meetings:
   - DICOM WG-7 Oct 21-25, 2008, Charleston, SC
   - DICOM WG-7 Mar 17-20, 2009, Washington, DC
   - AAPM, Jul 26-29, 2009, Anaheim, CA
   - ESTRO Aug 30 – Sep 3, 2009, Maastricht, NL
   - ASTRO Nov.1-5, 2009, Chicago, IL

V. Adjourn (Plan to adjourn Friday at Noon).