

KTLX Refractivity Project

NEXRAD TAC – Information Brief

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KTLX Refractivity Project

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 - Training approach
 - Evaluation method
 - Concept of Operations

KTLX Refractivity Project Objective

- (1) General: To build a business case on the cost benefit of implementing a refractivity monitoring capability on the Nation's network of weather radars.
- (2) Specific: Refractivity demonstration at Norman WFO to evaluate impact to mission (pro/con) and concept of operation
 - (1) Dates: April 2 – July 9, 2007.
 - (2) Forecaster Training: Week of April 9.
 - (3) Report: Due August 31, 2007.

KTLX Refractivity Project Overview

- Builds on recent NCAR REFRACTT research and 2006 field experiment
 - (Reference Rita Roberts' presentation at November 2006 TAC)
- Independent code developed at OU but based on original work by Fabry
- Real-time refractivity fields from KTLX sent to local WFO for forecaster use/evaluation
- Qualitative/quantitative assessment procedure developed by NSSL

KTLX Refractivity Project Participants

- Project Management (ROC)
 - Rich Murnan
- Software Development (OU)
 - Bob Palmer
 - Boon Leng Cheong
- Display Workstation: WDSS-II (NSSL)
 - Kurt Hondl
- Operator Training (NSSL)
 - Pam Heinselman
- Equipment / Comms / ECP (ROC)
 - Christina Horvat

KTLX Refractivity Project Methodology

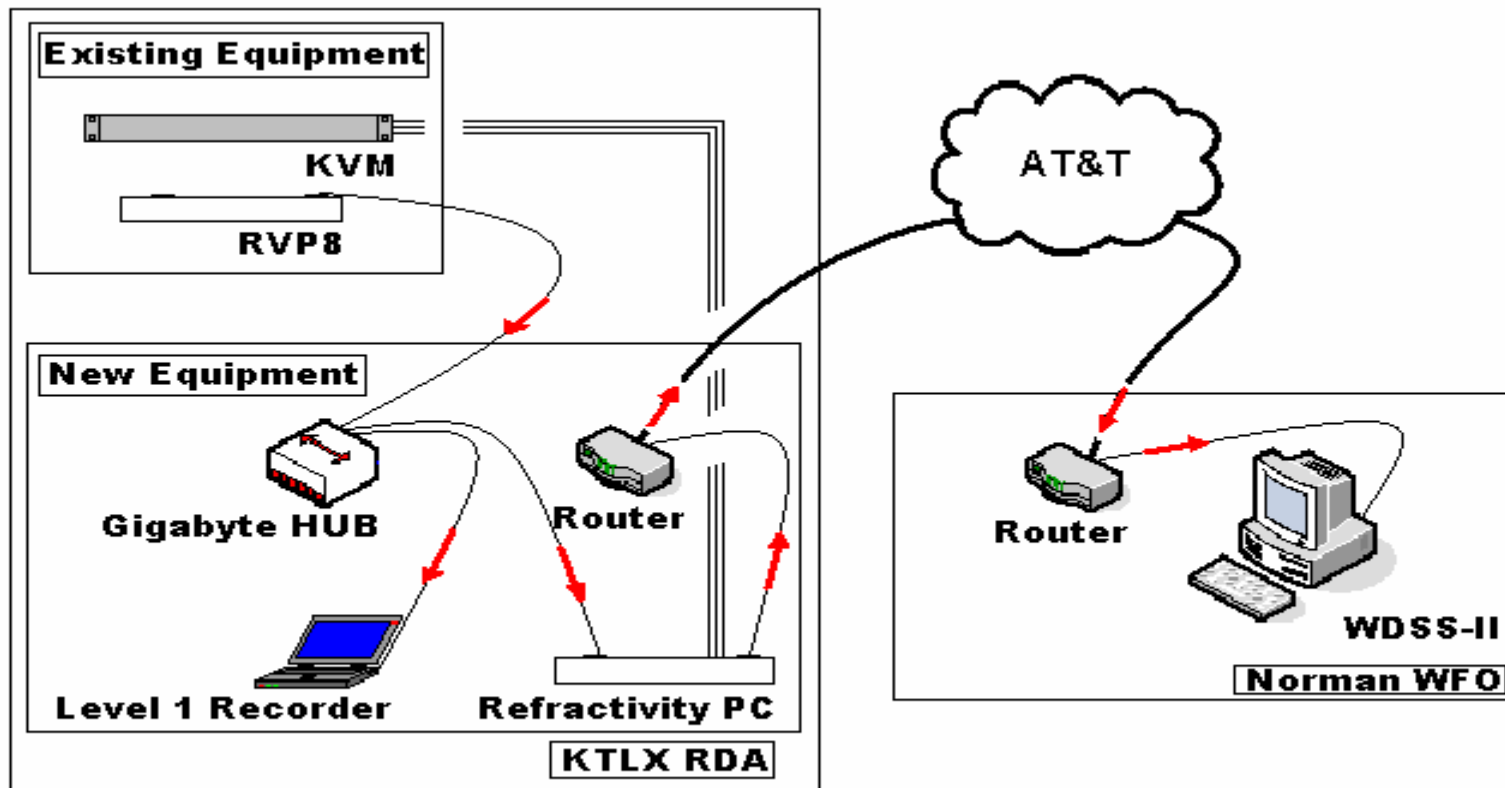
At RDA:

- Level 1 data from RVP8 recorded and processed into Refractivity products.
- Products shipped via new T1 line to Norman WFO.

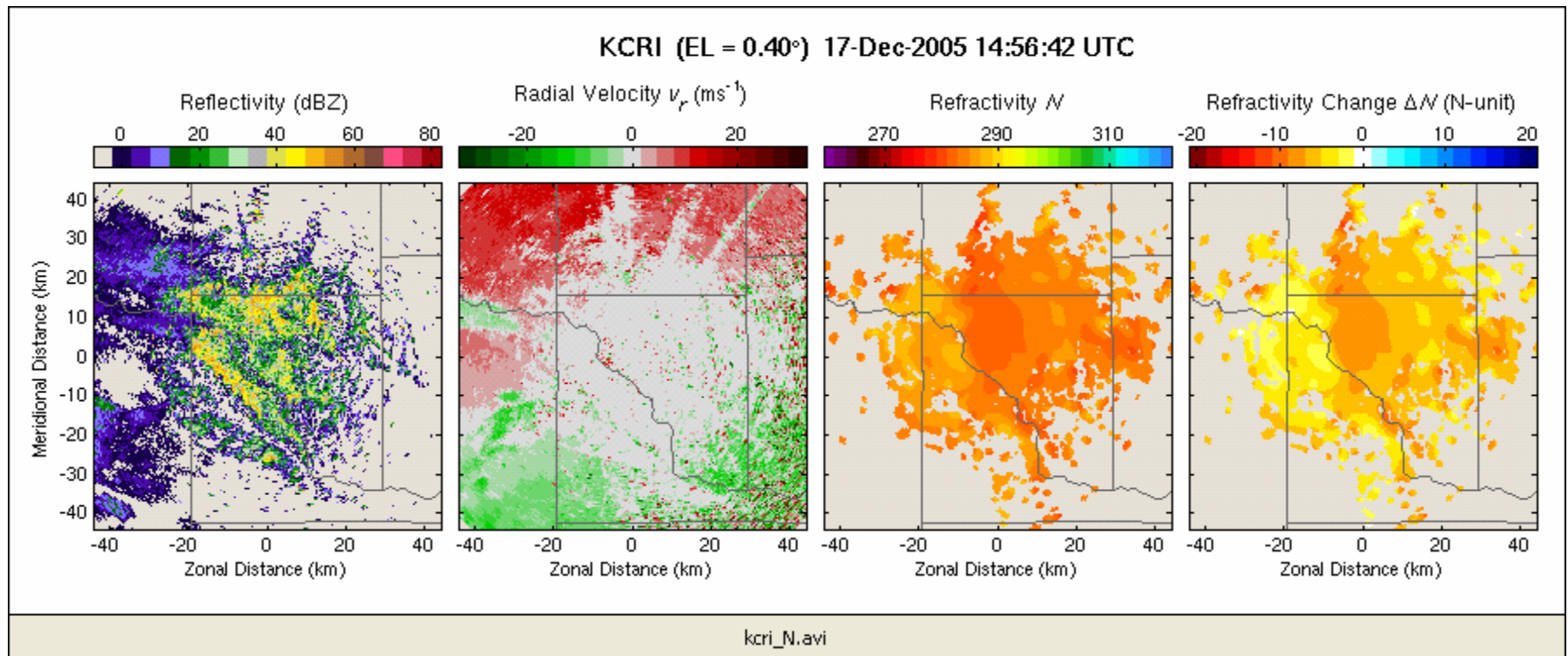
At WFO:

- Products displayed on WDSS-II in forecast area.

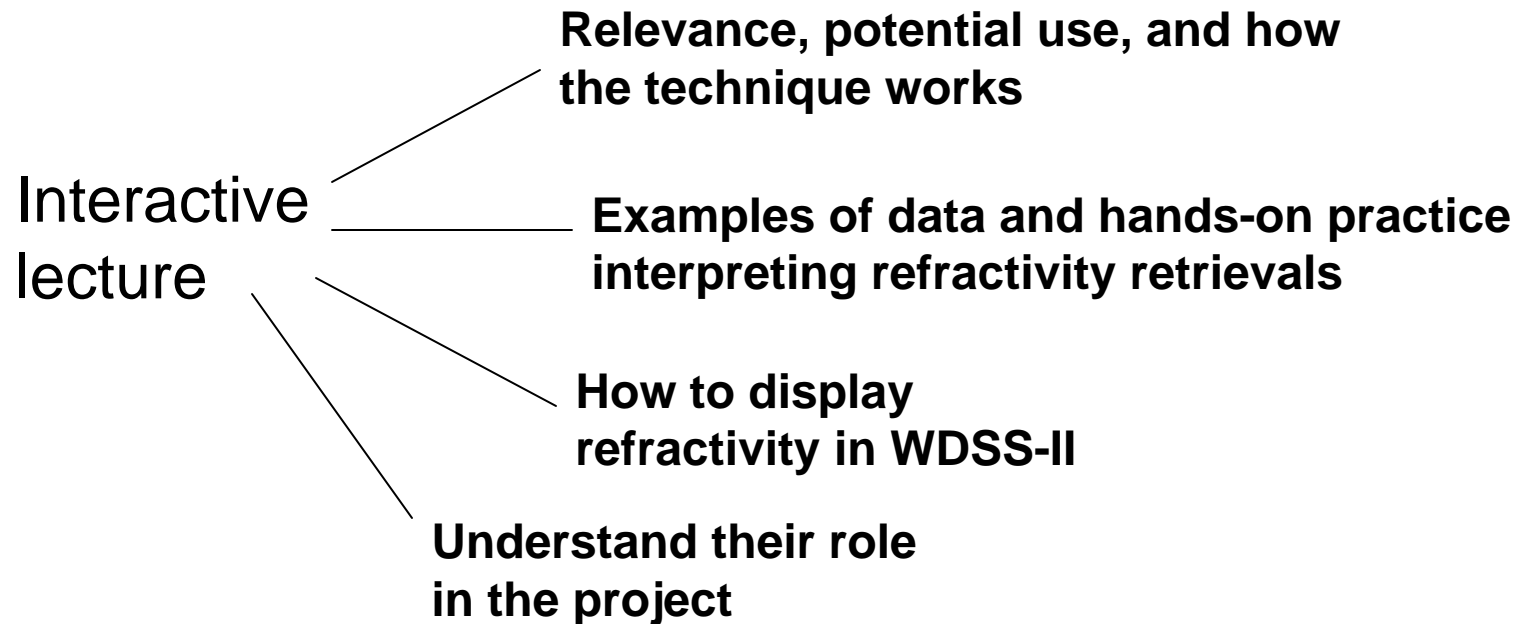
KTLX Refractivity Project Data Flow



KTLX Refractivity Project Data



KTLX Refractivity Project Training Approach



KTLX Refractivity Project Evaluation Method

- Develop a pilot survey designed to evaluate relative advantages and limitations of refractivity fields to NWS WFO operations
- Forecasters respond to survey on a daily basis
- Assess pilot survey (early May) by interviewing a few forecasters about its utility and completing a preliminary analysis of responses
- Revise survey as needed
- Assess all survey results using qualitative (coding) and quantitative methods
- Report analysis of forecaster responses to the ROC

KTLX Refractivity Project

Concept of Operations

(item in Operations and Services Improvement Process (OSIP))

- Operational, Technical, and Organizational Impacts
- Operational Impacts (examples):
 - Baseline refractivity field calibration on seasonal or more frequent basis.
 - Customize display colors targeting trigger thresholds.
 - Effect of clutter filtering to refractivity products.
- Technical Impacts (examples):
 - Communication issues (a new moment from the RDA).
 - Level 2 dissemination/collection.
- Organizational Impacts (examples):
 - AWIPS display and database issues.
 - Level 3 product distribution to external users (NCDC and RPCCDS).

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Questions and comments