



AN ADAPTIVE
CYBERINFRASTRUCTURE FOR
THREAT MANAGEMENT IN URBAN
WATER DISTRIBUTION SYSTEMS

DDDAS Workshop
National Science Foundation
Jan 19 & 20, 2006

Participants

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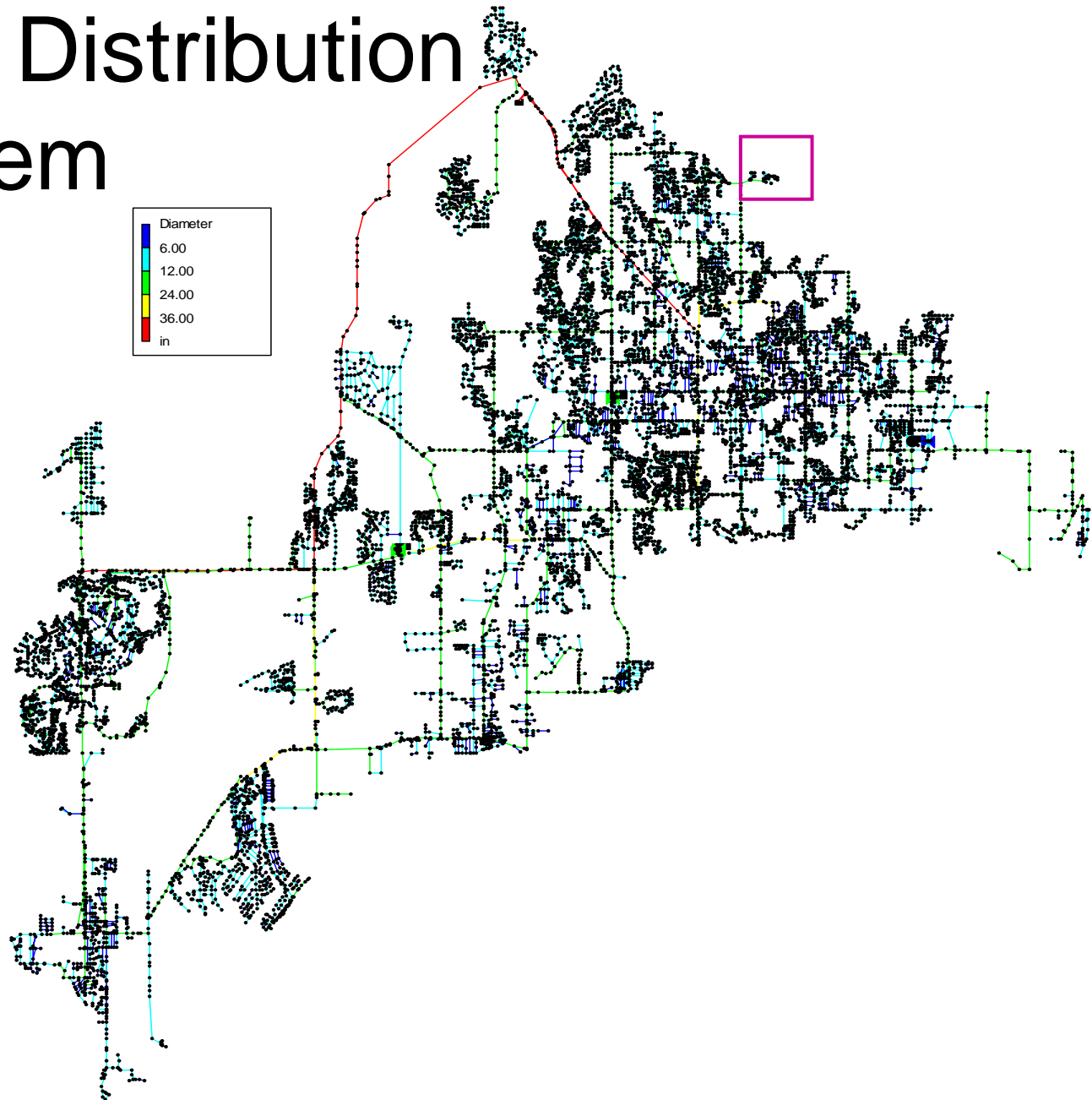


- Ken Harrison

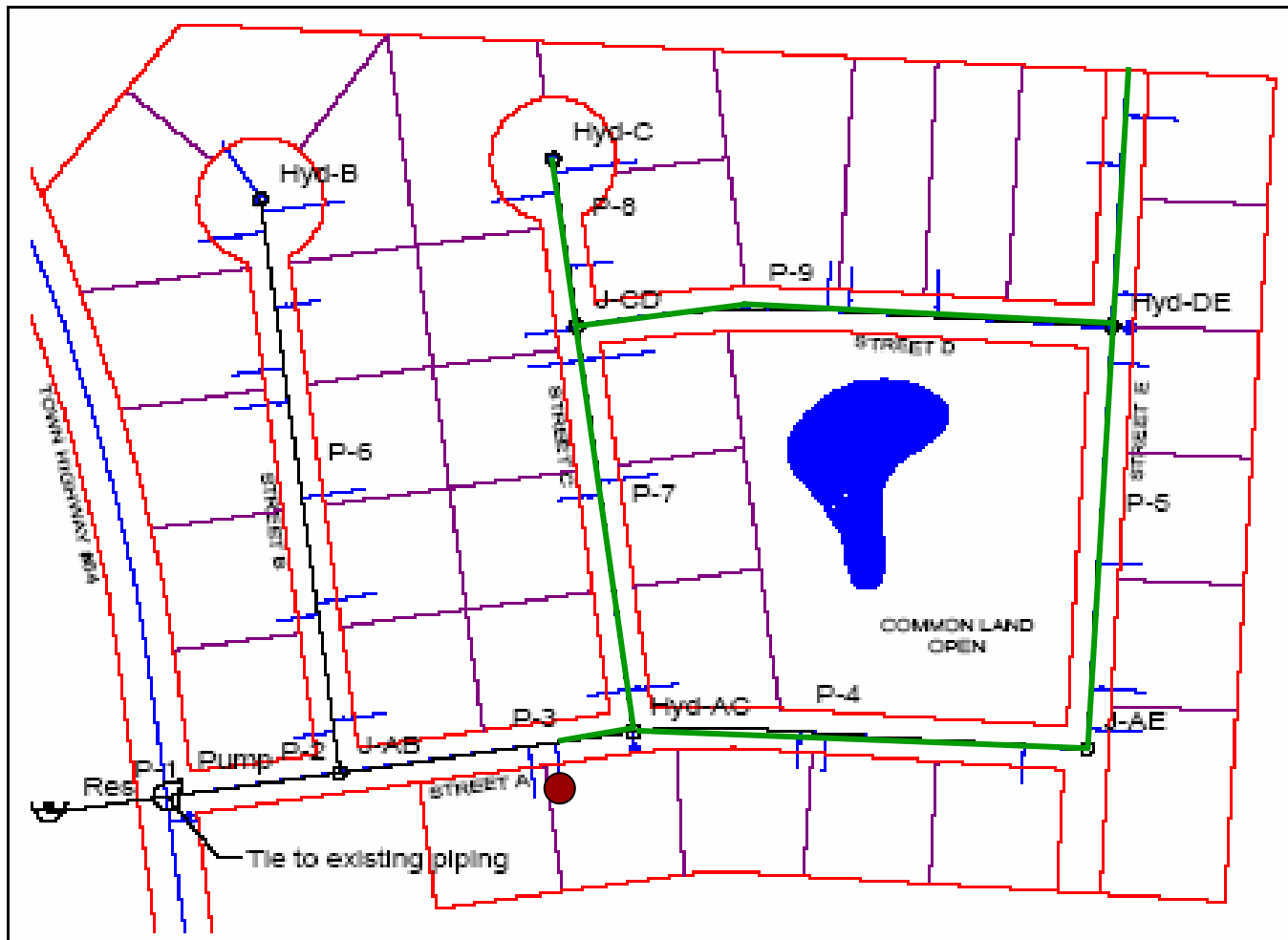


Greater Cincinnati Water Works

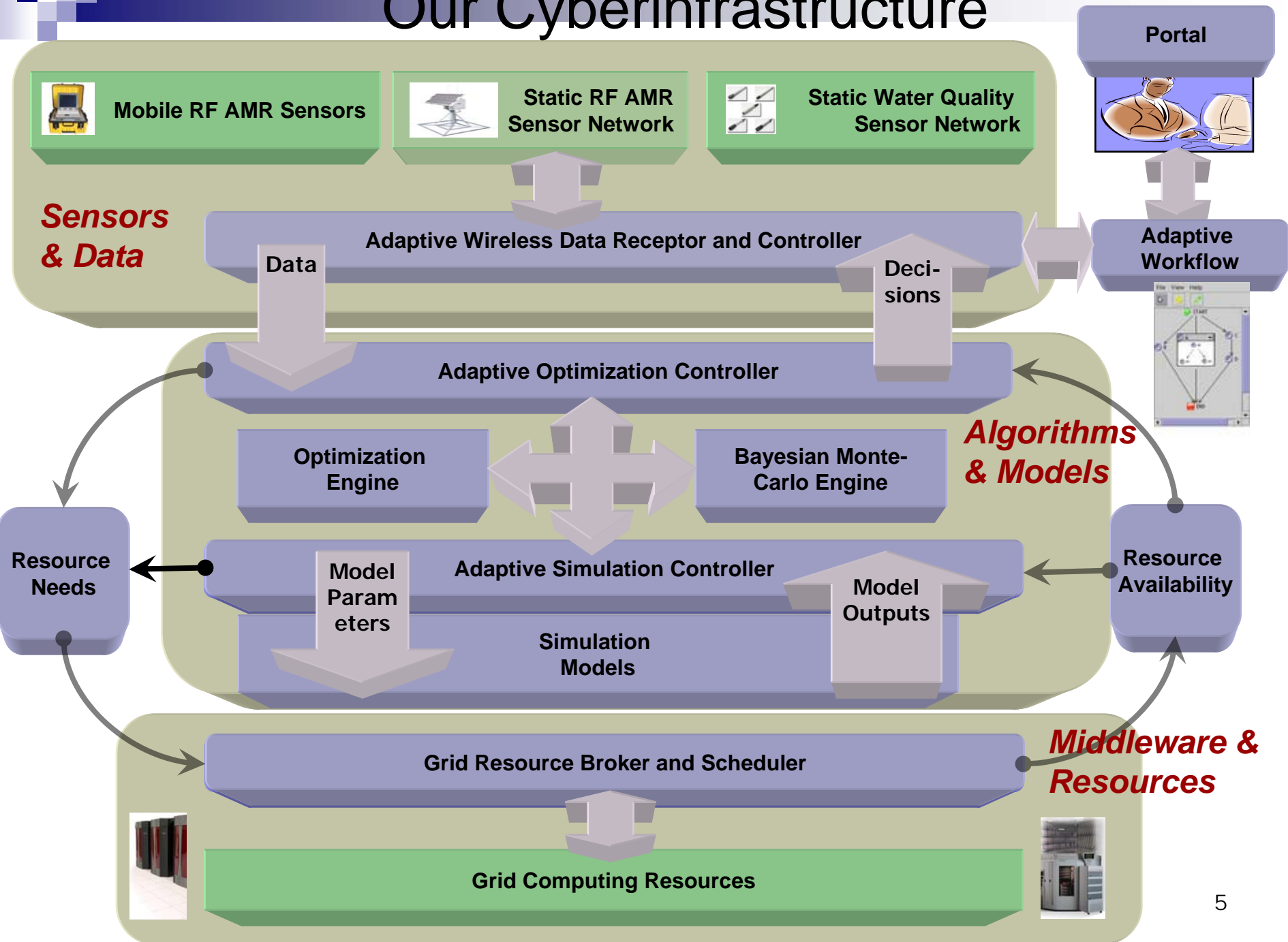
Water Distribution Problem



Water Distribution Problem



Our Cyberinfrastructure



DDDAS Aspects

- Dynamic
 - Data
 - Optimization
 - Simulation
 - Workflow
 - Computer Resources
- Data Driven and Vice Versa
 - Water Demand Data
 - Water Quality Data

Key DDDAS Developments

- Algorithm and Model Development
 - Dynamic Optimization
 - Bayesian Data Sampling and Probabilistic Assessment
 - Model Auto Calibration
 - Model Skeletonization
 - Network Assessment using Back Tracking
- Middleware Development
 - Adaptive Workflow Engine
 - Adaptive Resource Management
 - Controller Designs
- Cincinnati Application Scenario Development
 - Source Identification
 - Sampling Network Design



Questions?