Provide a white paper on the current state of Discovery Tools, focusing on core functionality, infrastructure, and challenges. Include a gap analysis between user needs and Discovery Tool functionality. Discuss environmental trends in specific focus areas, providing concrete recommendations on potential NISO activities.

The primary audience for this paper is current NISO committee members and NISO Board of Directors; secondary audience is potential NISO committee members and the general public.

The white paper should include:

1. **Background:**
   - Pointers to literature framing the issues
   - Related standards and best practices work

2. **Current status:**
   - Core infrastructure and core functionality
   - Current status of large-scale article metadata projects (e.g. CrossRef, OCLC)

3. **Gap Analysis:**
   - End user needs vs. current functionality and standards
   - Library/staff needs vs. current functionality and standards
   - Use existing research where available; Identify needs for potential future research

4. **Future Trends:**
   - Description of how emerging environmental trends and scale may provide new opportunities in the following potential focus areas:
     - Linked data (e.g. Schema.org)
     - Visualization and discovery
     - eResource metadata, including potential for neutral, centralized, searchable index
     - Crowdsourcing: personal and social cataloging, folksonomies, readers advisory and recommendation engines
     - Social Discovery: using behaviour patterns and other analytics to dynamically affect relevancy and recommendation
     - Assessment, including alternative metrics
     - Non-traditional content forms (e.g. big data, augmented reality, etc.)
     - Others TBD in discussion with consultant and D2D group

5. **Recommendations:**
   - Investigation and creation of unifying standards or best practices
   - Consolidation around non-library-specific standards and best practices (e.g. in authentication)
   - Specific focus areas for NISO to consider
     - Specific actions NISO can take to improve or support discovery
     - Identification of areas where NISO may partner with individuals or organizations to improve or support discovery