Beyond Simple Searching: Open Source Exploitation of the Chinese Internet

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July 2007

Defense Group Inc.

Center for Intelligence Research and Analysis

Advancing U.S. Intelligence Through Innovative Research, Analysis, and Public Outreach

What is the Center for Intelligence Research and Analysis?

- CIRA's mission is to provide cutting-edge research and analysis on critical issues to the US Government
- CIRA successfully executes this mission using
  - Hunter-killer teams of cleared Chinese, Korean, Farsi, Arabic linguist-analysts and fieldwork consultants working on hard targets issues
    - CIRA's staff currently has 10 cleared Chinese linguist-analysts
  - Networks of high-value functional specialists (e.g., cultural anthropologists, cognitive neuroscientists, electrical engineers)
  - Digital network intelligence teams for Internet datamining and network topology mapping of foreign computer networks
  - Operations support capabilities, including classified document forensics and secure open source architectures

CIRA's Open Source Philosophy

- CIRA uses open source exploitation…
  - …to provide some or all of the answers to hard target questions
  - …to complement classified data for true all-source analysis
  - …to provide cueing for follow-on technical and human collection and analysis
- CIRA utilizes a multi-faceted research methodology and infrastructure
  - Advanced linguistic capabilities
  - Extensive fieldwork and field capabilities
  - Deep, anonymized Internet exploitation
  - Extensive collection of foreign books, newspapers and technical journals
  - Broad network of subject matter expertise here and abroad
  - Clearances, accredited SCIF, secure comms, secure open source architectures

Open Source and China: Understanding the Milieu

- The Chinese language itself presents the greatest barrier to open source exploitation
  - "China's first line of national defense"
  - "China's first layer of encryption"
- Reading Chinese vs. understanding Chinese
  - Linguists pose difficult dilemma
    - Native speakers are difficult to get cleared
    - Yet cultural nuance cannot be learned in a classroom
  - There is no substitute for immersion language training
    - Cuts against the grain of the current security mindset

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Open Source and China: Understanding the Medium

- Chinese Internet is still a largely untapped gold mine
  - Soon Chinese language pages will outnumber all others
- But “Great Firewall” DMZ poses important barrier to unfettered searching
  - Increasingly large “dark nets” blocked to foreign IP addresses
  - Requires searching from within China - easier than you think!
- Even within China, native language search engines are censored for politically sensitive content
  - Google.com (Chinese) vs. Google.cn, Baidu, Others
  - Despite Baidu’s PR campaign, no evidence that domestic engines work better in Chinese
- Blogs and BBS have good material, but needle in a stack of needles
  - Local proprietary software poses technical challenges for collection

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Open Source and China: Digging Below the Surface

- Port 80 (HTTP) is not enough
  - Web browsing provides access to most of the desired content
  - But critical contextual details and additional information is available on the command line
- Simple and legal network topology mapping provides a fuller picture
  - Whois, nslookup, telnet, even portscanning

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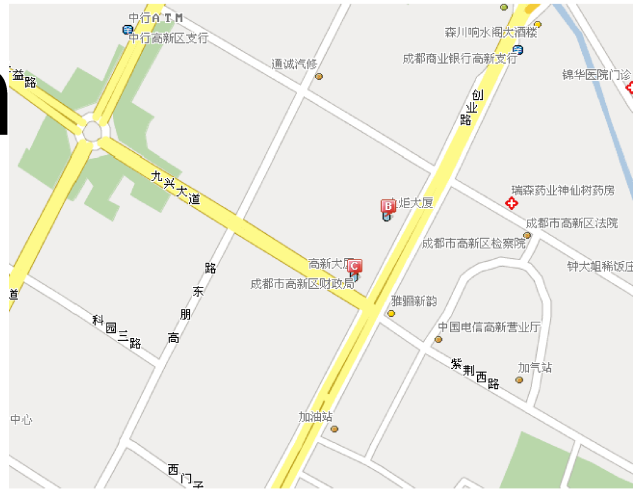
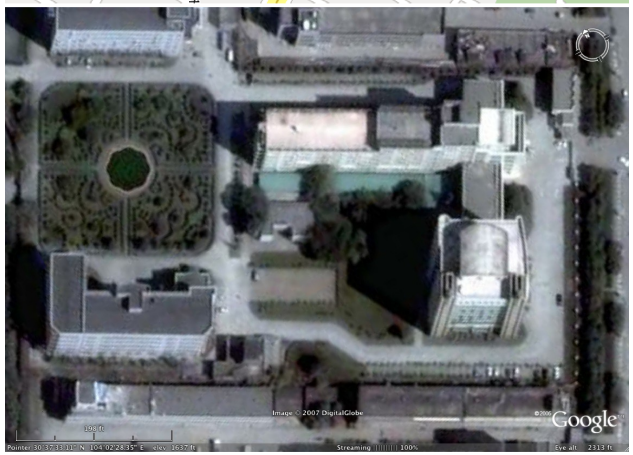
Open Source and China: Adding the Geospatial Dimension

- Location, location, location!
  - Accurate geolocation data is often the best way to unravel entity identities and relationships
- Relatively simply to find geolocation data for Chinese entities
- Street addresses often sufficient to find location in online GIS websites
  - Bracketing technique also works well
- Easy to map onto Google Earth for satellite imagery





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Conclusions and Implications

- Possibilities of open source in China
  - China is “opaque” if one does not read Chinese
  - In fact, the Chinese system is much more transparent than commonly believed
  - Some subject lend themselves particularly well to open source exploitation
- Limitations of open source in China
  - Some subjects are completely opaque
  - Some subjects reveal only a macro-level discussion
    - Still tremendously valuable as cueing for follow-on efforts

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