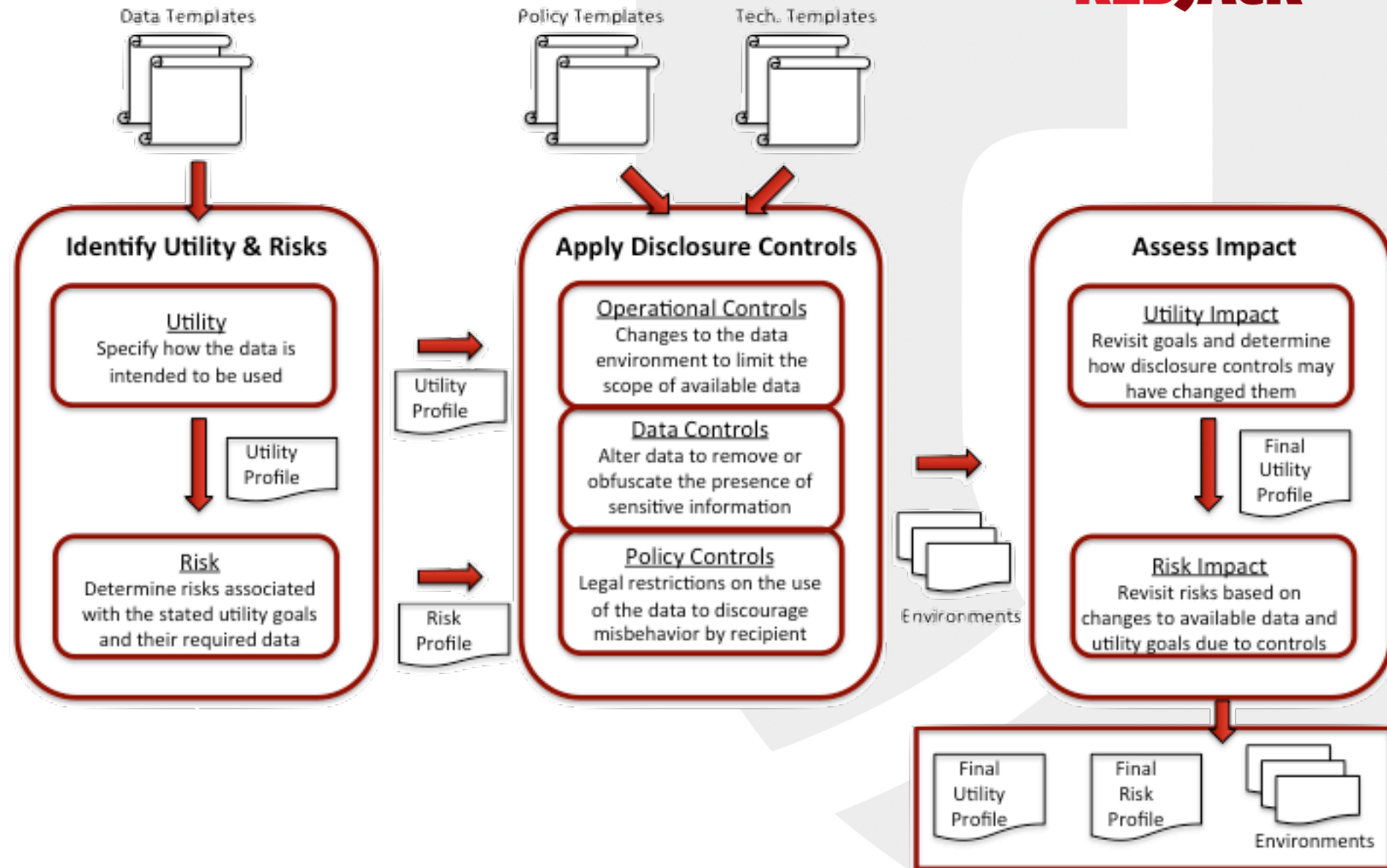


Project Overview: Prototype

REDJACK

System for working through DCF process and producing reusable artifacts

- **Templates:** Reusable and configurable information about policy, data, and controls used across many data sharing efforts
- **Web App:** Guides users through DCF process using library of available templates
- **Environments:** Virtual machines configured based on user responses and template options



Technology Template

Policy Template

```
"name": "Privacy Notice",
"description": "A privacy notice and terms of use.",
"categories": ["upstream", "terms", "covenants"],
"text": "We collect #{COLLECTED_DATA} kinds of
        information to measure the performance of
        your mobile broadband service.
        [COLLECTED_DATA]
        This data is protected using
        [PROTECTIONS]. You can find more detail in
        the FCC's technical summary of this program.",
"questions": [
  {"question": "Enumerate data items collected.",
   "answer": "COLLECTED_DATA"},

  {"question": "Enumerate protections for raw
               data after collection.",
   "answer": "PROTECTIONS"}
]
```

```
"name": "Quantize_Location",
"description": "Aggregate location data into blocks.",
"categories": ["aggregation", "location_data"],
"pointer": "http://example.com/quantize_loc"
"parameters":
{
  "k": "10",
  "granularity": "0.5"
}
```

Data Template

```
"name": "GPS Data",
"description": "Lat. and long. data",
"categories": ["location_data"],
"parser": "http://example.com/gps"
"schema": "
{
  "accuracy": "float",
  "latitude": "float",
  "longitude": "float",
  "timestamp": "datetime"
}"
```

Policy Template: Acceptable Use Agreement

REDJACK

```
"name": "Acceptable Use Agreement (CAIDA)"
"description": "A data use agreement that contains the data license, ..."
"categories": ["use restrictions", "data license", ...]
"text": "The following terms comprise the acceptable use agreement for all
datasets made available to [RECIPIENT_NAME] by the [PROVIDER_NAME]. Certain
datasets may have additional Supplemental provisions.
```

```
[DATAPROVIDER_NAME] has the authority and reserves the right, in its sole
discretion, to refuse requests for dataset(s) or discontinue further access
and use to anyone. If [RECIPIENT_NAME] feel [RECIPIENT_NAME]'s request is
inappropriately denied please contact [PROVIDER_NAME] by sending a message
to [PROVIDER_EMAIL]."
```

```
...
```

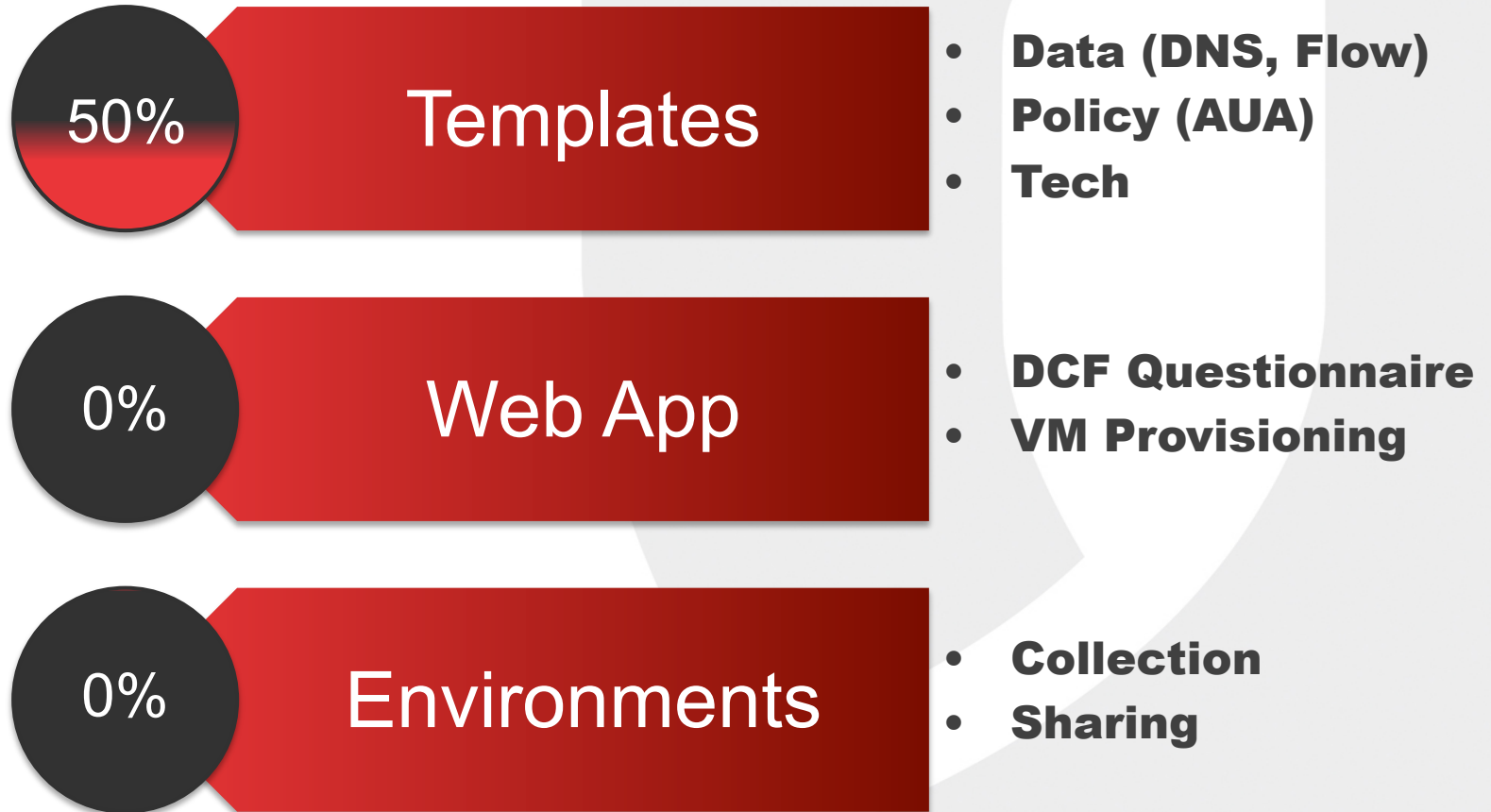
```
"questions":
  ["provider_name": "State data provider's name.",
   "provider_email": "Enter data provider's email.",
   "recipient_name": "State data recipient's name.",
   "recipient_email": "Enter data recipient's email.",
   "data_type": "Enumerate data types in this data release."]
```

Data Template: DNS Message

REDJACK

```
"name": "dns_message"
"description": "Combined format for DNS query and reply messages"
"categories": ["enterprise", "domain"]
"parser": "http://redjack.com/dns_parser"
"schema":
{
  "name": "header",
  "type": {
    "name": "dns_header",
    "type": "record",
    "fields": [
      { "name": "id", "type": "int" },
      { "name": "flags1", "type": "int" },
      { "name": "flags2", "type": "int" },
      { "name": "qdcount", "type": "int" },
      { "name": "ancount", "type": "int" },
      { "name": "nscount", "type": "int" },
      { "name": "arcount", "type": "int" }
    ]
  }
}, ...
```

Current Progress: Prototype



Project Overview: Outreach

REDJACK

Promoting DCF use by the larger data sharing community and soliciting feedback

- **FCC Mobile Broadband:** Provide privacy guidance and case study for use of DCF in large-scale project; possible PREDICT dataset
- **Information Security Operations & Intelligence (ISOI13):** "Less is More – A Disclosure Control Approach to Data Sharing"
- **International Association of Privacy Professionals (IAPP) Europe Data Protection Congress, November, Brussels.**

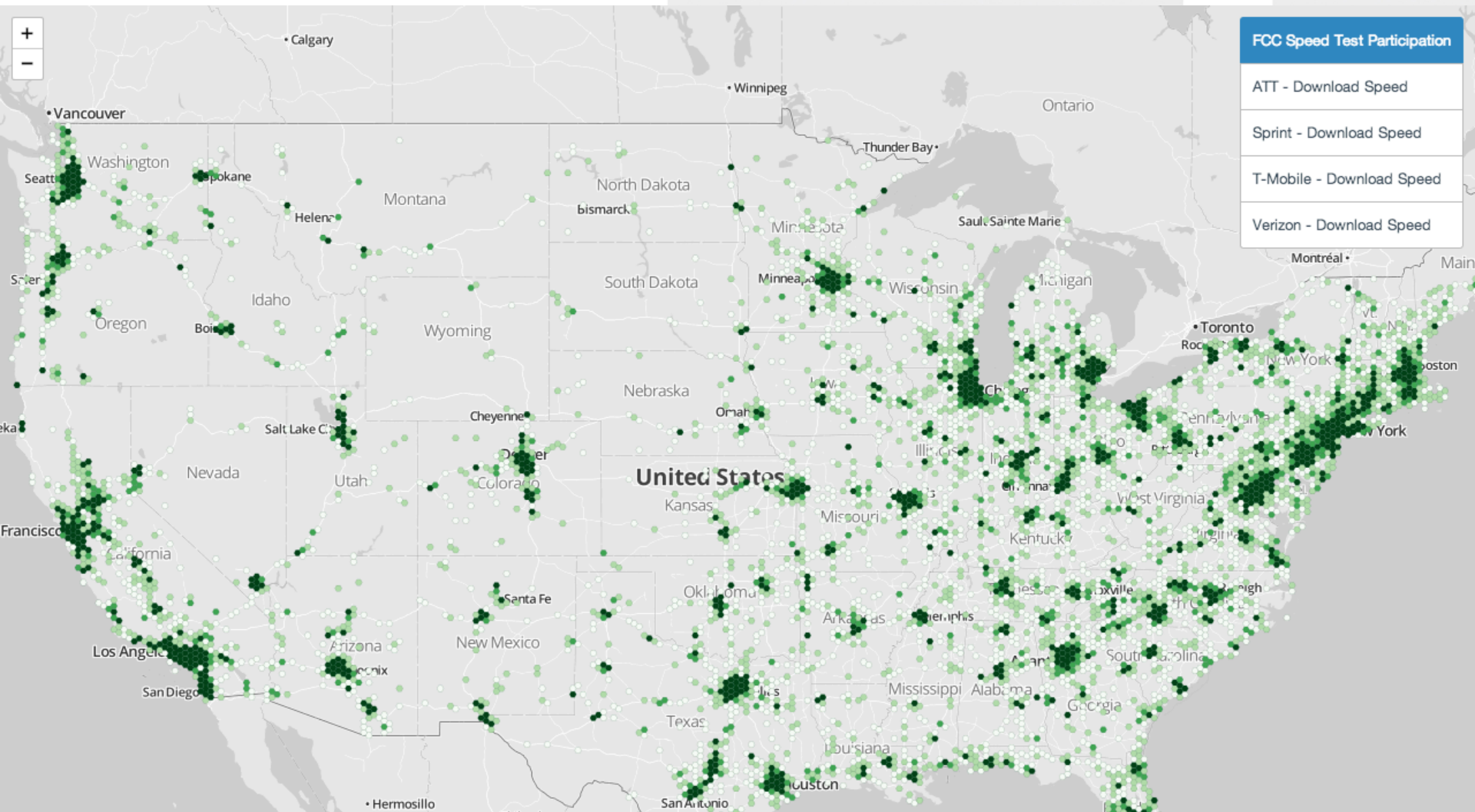
FCC Mapping Data

Collection of mobile broadband **speed and **signal strength** indicators via phone apps**

Recommendations after initial analysis:

- **Quantize location information to 25km hexagon**
- **Min. measurements per carrier in each block (k-anonymity)**
- **Min. “landmarks” per block (l-diversity)**
- **Separate handset stats from location measurements**

FCC Mapping Data



Opportunities and Challenges

Data ready to be released to PREDICT
pending **final privacy analysis** and approval
by **mobile carriers**

Strong desire for “centralized” FCC data
repository and **DCF-like web app**

Interest in research-oriented data release via
secure virtual enclave

Current Progress: Outreach

REDJACK

66%

Privacy Analysis

- **Initial analysis**
- **Recommendations**
- **Final analysis**

50%

Case Study

- **Submission to WISCS
(colocated w/ CCS)**

25%

Data Import

- **Mapping Data**
- **Research Data**