

# Moving a Commercial Forecasting Product to Open Source

Judy Merritt, Scientific Technologies Corporation  
Nathan Bunker, Dandelion Software & Research, Inc.

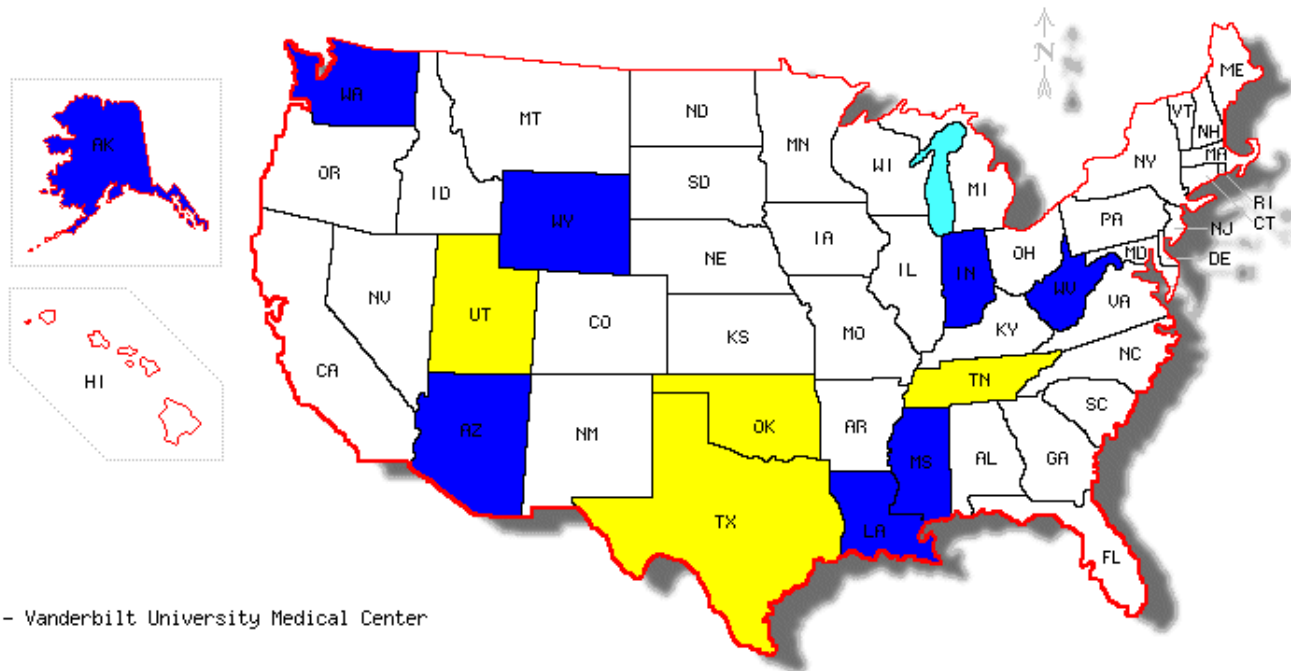
- 1988 – STC founded to provide information services and proprietary products to public entities
- 1999 - Commercial forecasting product
  - » Integrated in STC’s proprietary IIS product
    - Utilizes ACIP guidelines
      - » Evaluates immunization history for compliance
      - » Forecasts “Recommended, Minimum and Past Due Dates”
      - » Returns reasons an immunization does not meet administration criteria
    - Allows state specific customization through user interface
      - » Age cut off for forecasting specific vaccines
      - » Forecast future doses only after dose 1 administered
      - » Dose specific settings for minimum age or interval settings

- 2006 – Stand Alone Forecaster
  - » IIS neutral
  - » Web service via SOAP messaging
  - » Available to state clients by purchasing license/client hosted or subscription web service
  - » Client consortium participation
  
- 2012 – Open Source study with Dandelion Software and Research
  - » Evaluate Open Source licensing options
  - » Marketing opportunities

# Consortium of Sites Using Forecaster



- - IWeb Forecast
- - Forecast Web Service



**NOTES:**  
Tennessee - Vanderbilt University Medical Center

- Why move to Open Source model?
  - » Software acquisition may be easier for public entities
    - Limited federal and state funding
    - State procurement mechanisms
  - » Increased product uptake opens doors for other business opportunities
    - 2012 - Vanderbilt University Medical Center Pilot
    - Opportunities in private sector
  
- Impact on current business model
  - » Potential decrease in revenue
  - » Response of existing customers

## Steps to move to Open Source

- » Legal: Licensing options
  - Existing published Open Source licenses
  - Develop own product specific license
    - » Open Source to Public Health Entities
    - » Commercial product available to private entities
- » Apply for software copyright
- » “Package” software for distribution
  - Source Code
  - Executable Code
  - Documentation

- Develop multiple integration strategies
  - » Open Source without vendor support
    - Delayed release schedule for forecast updates
  - » Open Source with option of vendor support
    - ACIP schedule updates within 30 days of release
    - Help Desk Support and access to subject matter experts
    - Participation in client consortium
    - Input for product enhancement through consortium
  - » Subscription based web service

- Moving to Open Source is not difficult
- Open Source requires different business strategy
  - » Where does revenue come from now?
  - » What new markets are available?
- Open Source can renew product interest
- Improved product visibility opens new market areas
- Increased product uptake may lower maintenance costs for customers who choose support



## ➤ DSR Role

- » DSR is dedicated to improving public health
- » DSR considers STC to be a critical participant in improving public health
- » DSR supports STC moving towards offering more Open Source products
- » DSR expects that by offering more open source options STC will be able to increase their support of public health goals


- Software and Business
- Open Source History
  - » Unix
  - » Free Software Foundation
  - » Open Source Initiative
- License Types
  - » Original Proprietary
  - » Copyleft, GPL Style
  - » Free as in freedom, not free as in beer
  - » Permissive

## ➤ Ownership

- » Release copyrighted software under any number and type of license
- » May charge for distribution of software
- » Enforce trademark rights
- » Determine who can contribute to the software project

- STC acceptance of Open Source
- Technical staff has long history using open source tools and concepts:
  - » Open source technical solutions are preferred
  - » Open source development processes are preferred
  - » Proprietary applications have been avoided if possible
  - » Many STC technical staff are proponents of open source

- STC is offering open source because:
  - » Public health is by nature collaborative and fits well with open source
  - » Open source presents new marketing opportunities
  - » Reduces risk of investing in obsolete technology

- 1969: Unix – Bell Labs  Bell Laboratories
  - » Originally distributed at a nearly free cost
  - » Users would make local changes and improvements
  - » Eventually Unix was commercialized and locked down
- 1983: Free Software Foundation (FSF)
  - » Richard Stallman began writing OS
  - » Advocated for full user control
  - » Movement eventually created Linux
- 1998: Open Source Initiative (OSI)
  - » Practical instead of philosophical
  - » New term “Open” instead of “Free”



## ➤ General License Types

- » Original Proprietary
- » Copyleft, GPL Style
- » Open Source – Permissive

## ➤ Popular Examples

- » Apache License 2.0
- » BSD 3-Clause "New" or "Revised" license
- » BSD 2-Clause "Simplified" or "FreeBSD" license
- » GNU General Public License (GPL)
- » GNU Library or "Lesser" General Public License (LGPL)
- » MIT license
- » Mozilla Public License 2.0
- » Common Development and Distribution License
- » Eclipse Public License

## ➤ Ownership

- » All open source software must be owned
- » Owner may release copyrighted software under any number and any type of licenses including free, open, or proprietary
- » The owner or any user may charge for distribution of software
- » Owner can continue to enforce trademark rights
- » Owner can determine who can contribute to the original software project



## ➤ Cost of Open Source Software

- » Open software itself is often free or inexpensive
- » Installation, configuration, improvements, changes, training have a definite cost
- » Proprietary solutions are often packages
  - Straight forward cost structure
  - Additional “free” benefits with software purchases
- » Open solutions require extra support
  - Vendor or client can manage
- » Free software does not translate to no cost

- Open Source can reduce cost
  - » Cost reductions can be achieved by:
    - Investing in efficient software architecture
    - Focusing on economies of scale
    - Leveraging software for multiple uses
    - Maintaining legacy software
    - Bridging gaps in unsteady funding
  - » Good product management reduces costs
    - Software vendor can lead this
    - Community can lead this

- Open Source matches Public Health environment
  - » Works best with collaborative support
  - » Supports community sharing
  - » Works well under unpredictable funding streams
  - » Well suited for niche applications
- Open Source is not a panacea
  - » Shifts overall responsibility for software application towards user community

## ➤ Dandelion Software & Research

- » DSR is dedicated to improving public health
- » DSR considers STC to be a critical participant in improving public health
- » DSR supports STC moving towards offering more Open Source products
- » DSR expects that by offering more open source options STC will be able to increase their support of public health goals

- Evaluated STC's acceptance of Open Source
- Technical staff has long history using open source tools and concepts:
  - » Open source technical solutions are preferred
  - » Open source development processes are preferred
  - » Proprietary applications have been avoided if possible
  - » Many STC technical staff are proponents of open source

- STC is offering open source because:
  - » Public health is by nature collaborative and fits well with open source
  - » Open source presents new marketing opportunities
  - » Reduces risk of investing in obsolete technology

- Open Source software can help build strong working relationships between public health agencies and their software vendors
- Open Source software can allow public health agencies to better cooperate
- Open Source software can help our community reach our goals