



DATA FUSION AND ANALYSIS
PROOF OF CONCEPT
PROJECT CHARTER

Version

1.2

November 3, 2008

VERSION HISTORY

Version #	Implemented By	Revision Date	Reason	Approved By	Approval Date
0.1	PMO	4/25/2008	Initial draft	Crystal Watson	04/29/08
0.2	PMO	05/19/2008	Input by Carl Kinkade, Jim Tobias, John Stinn and William Duck	Crystal Watson	05/20/08
0.3	PMO & GIS Team	05/21/2008	Terry Boyd input and Carl Kinkade and Crystal Watson edits	Crystal Watson	05/21/08
0.4	PMO	05/22/2008	Moses Miles edits	Crystal Watson	05/22/08
1.0	PMO	05/23/2008	Crystal Watson edits	Crystal Watson	05/23/08
1.1	PMO	05/23/2008	Carl Kinkade edits	Crystal Watson	05/26/08
1.2	PMO	06/10/08	John Stinn edits based on NCPHI feedback	Crystal Watson	06/11/08
1.3	PMO	06/12/08	Changed title of project and project charter to more accurately reflect Concept being tested	Crystal Watson	06/24/08

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1 INTRODUCTION

1.1 PURPOSE OF PROJECT CHARTER

This charter documents and tracks the necessary information required by decision maker(s) to approve the project for funding.

The intended audience of the charter is the project sponsor and NCPHI senior leadership.

2 PROJECT AND PRODUCT OVERVIEW

This charter defines a proof of concept (PoC) project involving analytical techniques and interoperability requirements for biosurveillance and distributed public health data fusion. The results of this PoC will inform the design of future biosurveillance and public health solutions.

Leveraging best practices from existing systems and infrastructure, along with input from state and local epidemiologists and other partners, analytic and interoperability requirements pertaining to a biosurveillance solution will be identified.

Software supporting these requirements will be developed as a working Proof-of-Concept, leveraging Public Health DGINet (PH-DGINet) sponsored by NCPHI. As a start, the PoC will use DGINet and involve working with a public health entity that has a sophisticated infrastructure in place and available resources. Data from this entity will be fused with mock biosurveillance data in a lab environment.

Pilot nodes will be created to illustrate how data from these nodes can be fused together. At least one node will be created at the state level, one in the CDC NCPHI research lab, and one in California at the office of the Environmental Systems Research Institute (ESRI).

The node at the state level will publish representative surveillance data through web services to be consumed by the CDC node. The ESRI node will produce base data services and the CDC node will produce representative biosurveillance data and national GIS data layers. The pilot will demonstrate how aggregated location and syndrome count data from multiple various can be consumed and visualized within state and local jurisdictions, leveraging various levels of existing biosurveillance and IT infrastructures.

3 JUSTIFICATION

3.1 BUSINESS NEED

NCPHI's architectural vision is to create an open, federated framework promoting distributed data stewardship, analytical access, and collaboration between participating stakeholders. This proof-of-concept will inform NCPHI and its public health and commercial partners of best practices and potential issues to this approach, and provide a foundation to evaluate existing and emerging interoperability protocols.

3.2 PUBLIC HEALTH AND BUSINESS IMPACT

This project will demonstrate approaches to federated, nation-wide architectures that may support real-time surveillance and situational awareness using existing biosurveillance applications, interchange standards, and IT infrastructure available to state and local public health partners.

4 SCOPE

4.1 OBJECTIVES

The objectives of the Data Fusion and Analysis Proof of Concept project are as follows:

- Federated Analysis and Distributed Data Fusion demonstration
 - Identification of the data fusion requirements using input from state and federal public health stakeholders
 - Confirmed participants: South Carolina, CDC
 - Potential Participants: North Carolina, Georgia, Florida, FDA, VA
 - Working Proof of Concept
 - Demonstration of data visualization using DGINet infrastructure
 - Level of effort assessment
 - Actual fusion of data with mock biosurveillance data
- Analytical Tools and Services
 - Identification of analytical requirements using input from state, local, federal, and academic public health stakeholders in addition to the tools already identified.
 - Integrate a series of analytical tools that will provide total counts, time series, and epi curves/histograms from data across nodes
 - Demonstrate the use of a services based analytical tool
- Security
 - Identification of security requirements using input from state, local, federal, and academic public health stakeholders
 - Demonstrate security methodology to protect the transfer of restricted health data

4.2 MAJOR DELIVERABLES / MILESTONES

#	Major Deliverable/ Milestone	Deliverable Description	Due Date
1	Project Kick-off	Meet with Project Sponsors to review and sign-off on the Project Charter.	May 1, 2008
2	Proof of Concept Partners established	Agreement with ESRI initiated and South Carolina committed	May 1, 2008
3	Working prototype as Proof of Concept	Working Prototype using DGInet with external data fused with mock biosurveillance data	June 1, 2008
4	Define Requirements for Analytical Tool	Identify requirements for analytical tools using input from state, local and other epidemiologists	June 15, 2008
5	Define analytical tools and services	Define the analytical tools and services to be integrated into DGInet	June 20, 2008
6	Demonstration of analytical tools and services using data from multiple nodes	Integrate the analytical tool and services identified by the stakeholders	August 15, 2008
7	Define security / privacy assessment	Privacy, Security Requirements	September 30, 2008
8	Integrate agreed upon security protocols	Integrate the security process to protect restricted health data	November 30, 2008

4.3 PROOF OF CONCEPT REQUIREMENTS

The following table presents the requirements that the Proof of Concept must meet in order for the objectives to be satisfied.

Req. #	Requirement Description
1.01	Load the DGInet software stack in lab
1.02	Create the BioSense mock data test database
1.03	Create the CDC GIS base data layers and services
1.04	Demonstrate data service query against test database
1.05	Demonstrate GIS visualization of the CDC GIS Data layers and services
2.01	Set up DGInet node in lab (node A)
2.02	Set up DGInet node at the South Carolina DHEC(node B)
2.03	Set up DGInet node at ESRI in Redlands, CA (node C)
2.04	Establish connectivity between all nodes
2.05	Demonstrate capability of data fusion between nodes
2.06	Demonstrate single query capability against data at each node
2.07	Demonstrate merged data from the three nodes in GIS
2.08	Demonstrate the ability to query across nodes for GIS data layers and services
2.09	Demonstrate the integration of analytical tools and services, including: <ul style="list-style-type: none"> • epidemiology curve / histograms • table display / export • gender selection • syndrome query / data field selection tool • configuration menu, allowing users to view analytical services available on remote computers
2.10	Demonstrate Query Builder Tool

Req. #	Requirement Description
2.11	Document Level of Effort to construct CDC, and state based DGINet Nodes

5 ASSUMPTIONS, CONSTRAINTS AND RISKS

5.1 ASSUMPTIONS

This section identifies the statements believed to be true and from which a conclusion was drawn to define this project charter.

1. Resources and end date are fixed.
2. System owners and project teams will participate and comply with requests necessary for completion of this project.
3. Mock biosurveillance datasets will be created and used throughout this PoC.

5.2 CONSTRAINTS

This section identifies any limitation that must be taken into consideration prior to the initiation of the project.

1. There are time constraints that will limit the amount and depth of analysis than can be performed.
2. There are a limited number of resources available to complete the project.

5.3 RISKS

Risk	Mitigation
Dependence on external partners	Clear communication with partners on roles and responsibilities
Schedule	Manage expectations by regularly updating all parties on project status
Mock biosurveillance dataset requirement for PoC	Participation of parties within CDC with the ability and authority to create the dataset and work with the PoC team

6 PROJECT ORGANIZATION

6.1 ROLES AND RESPONSIBILITIES

This section describes the key roles supporting the project.

Name & Organization	Project Role	Project Responsibilities
Dr. Leslie Lenert NCPHI OD	Project Sponsor	Person responsible for acting as the project's champion and providing direction and support to the team. In the context of this document, this person approves the request for funding, approves the project scope represented in this document, and sets the priority of the project relative to other projects in his/her area of responsibility.
Crystal Watson NCPHI OD Terry Boyd NCPHI DISS	Project officer	A program representative responsible for coordinating with acquisition officials on projects for which contract support is contemplated. This representative is responsible for technical monitoring and evaluation of the contractor's performance after award.
PMO/GIS Teams	Project Team	Performs the day to day activities of the distributed data fusion evaluation and proof of concept tasks. * Other members of the Project Team may include NCPHI staff and contractors who may serve in a Subject Matter Expert role.
DISS	Lab Support	Provide technical and infrastructure services for the NCPHI Lab
Public Health Entities	Proof of Concept Partner	Provide Distributed Data Fusion for use in Proof of Concept. <ul style="list-style-type: none"> • South Carolina Department of Health and Environmental Control (DHEC) • Veterans Administration • Food and Drug Administration (Potential) Georgia (Potential)
External Partners	Proof of Concept Partner	Provide technical resources and direction. <ul style="list-style-type: none"> • University of Pittsburgh/ RODS • California's office of Environmental Systems and Research Institute (ESRI)

7 PROJECT CHARTER APPROVAL

The undersigned acknowledge they have reviewed the **Project Charter** and authorize and fund the Data Fusion and Analysis Proof of Concept project. Changes to this **Project Charter** will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _____ Date: _____
Print Name: _____ Dr. Leslie Lenert _____
Title: _____ NCPHI Director _____
Role: _____ Executive Sponsor _____

Signature: _____ Date: _____
Print Name: _____ Crystal Watson _____
Title: _____ NCPHI PMO Director _____
Role: _____ Project Officer _____

Signature: _____ Date: _____
Print Name: _____ Terry Boyd _____
Title: _____ NCPHI DISS Director _____
Role: _____ Project Officer _____