Technical Applications Development Strategy
Status Report Number 2

Submitted By
Pacific States Marine Fisheries Commission

October 23, 1996

Introduction

In July of 1996, PSMFC received approval from the BPA project COTR to proceed with a strategy outlined in a paper titled 'Draft Technical Applications Development Strategy And Implementation Plan To Provide Platform Independent Access To StreamNet Data Products Through The World Wide Web (WWW) Service Of The Internet'.

This report outlines our progress in the first 2 phases of this strategy (porting and making available tabular data and beginning GIS prototyping). Phases 3 and 4 concern selecting final hardware and software configurations and implementing the final system and have not begun yet.

We are pleased to report that Phase I has essentially been completed. The database query system is up and running as part of StreamNet's test web page (wwwtest.streamnet.org) which we plan on porting to the public site by the end of this month (pending approval from the Steering Committee and the COTR). We have firmed up plans for Phase II prototyping and are prepared to begin that testing in earnest by November 1.

Please forward questions, comments, or concerns to Stan Allen or Duane Anderson at PSMFC.

Phase I Update

Task 1 : Port selected StreamNet datasets... :

Progress to Date : All distributed system datasets have been ported to the SQL server including: Adult Abundance, Harvest, Hatchery Releases, Hatchery Returns, Spawner-Recruit, Distribution (this system includes coastal distribution which was NOT in the DS), Hatchery and Dam facility, and the Reference System. Note: for this release we have only ported StreamNet references (reference ID <100,000) to the central server. The database is resident on a Sparc Server 1000 (Onco) at PSMFC using Ingres version 6.4.04.

Future Action: Update Ingres database with new data as it becomes available.

Task 2 : Develop, test....HTML... interface... :

Progress to Date : 2 major models of user interface prototypes have been completed. The first, dubbed *Query By* Form, is a forms based approach allowing the user to specify multiple criteria on a single screen. The second model, called *Query Assistant*, uses a more traditional Web approach of tunneling down through one option at a time. Both models end up at the same place, namely the selected report. All reports are available on-line in browser view or as graphs, and are available for download as either tab-delimited or comma-delimited files. Detailed reference data is available for all reports through hyper-

links and we've add a 'basic index' search function (available in the library function of the web page) to the reference database.

Future Action: Complete final testing, incorporate final comments, and port system to public area.

Task 3) Select a preferred alternative...

Progress to Date : Based on the comments we received during prototyping, and our perceptions of different user requirements, we have decided to maintain support for the two models of data access described above.

Future Action: Pending Steering Committee approval we will <u>not</u> pursue any major enhancements on either the data access tools or underlying database for the next 2-3 months while ad hoc GIS testing is prototyped (we will address bugs, and the underlying database will be updated as new data comes in).

Task 4) Expand current pre-prepared map catalog...

Progress to Date : Steve has added a variety of new map coverage's to the current WEB page

Future Action: Continue to add coverage's as they become available

Task 5) Explore the feasibility of providing pre-prepared map products in Arc Info Format...

Progress to Date : Steve has provided WEB page function to download files as GIS images, encapsulated postscript files (eps), and compressed Arc/Info graphics files (gra). Only a few of the map catalog choices are available in these formats at this time.

Future Action: Add additional formats as they become available

Task 6) Provide interactive query interface to map holdings...

Progress to Date : Steve has provided this function using UNIX based tools WEB (not an SQL database)

Future Action: Add additional features, if desirable, keep database updated, explore options for integrating map catalog information into SQL database.

Phase II Update

Task 1) In preparation of geographic prototyping prepare...

Task 1.1) Locate and prepare suitable test site for Oracle/SDE testing

Progress to Date: We have assembled Windows NT 4.0 Server test machine to use in prototyping (machine was built primarily from spare parts at PSMFC and will only be used in prototyping exercise). We have obtained an evaluation copy of MapObjects from ESRI (license expires December 31, 1996). We have begun evaluation of suitable programming environments for application. Because MapObjects can serve as an interface to data in the SDE or data available as shape files, we want to first evaluate this product using shape files (as opposed to the SDE). It may be possible to achieve a high level of function using only shape files as opposed to the SDE. If we determine that the this solution is inadequate, the <u>same</u> application developed for shape files can be used for data hosted in the SDE.

Future Action: Begin prototyping in earnest.

Task 1.2) Acquire and install test copy of ESRI's SDE...

Progress to Date: Based on our research of the options for interactive GIS functions, we have determined that the use of ESRI's SDE is not a pre-requisite to complete this task. To save time and money we will first prototype using Arc shape files. The application we develop <u>will be completely compatible with the </u>SDE, if we determine that the SDE is a desirable data host environment.

Future Action: Dependent on our findings in Task 1.1.

Task 1.3) Prepare Regional SQL / ArcInfo Test site(s)

Progress to Date: Duane met with BPA, they are moving forward with Sybase, ArcInfo test bed.

Future Action: Continue with preparation work.

Task 1.4) Select basin for geographic prototyping....

Progress to Date: PSMFC will use the Clackamas basin for prototyping utilizing the 1:100,000 PNW reach file. Updated distribution data has been obtained from ODFW.

Future Action: None.

Task 2) Assess performance and feature options...

Progress to Date : None

Future Action: Develop criteria for assessment, proceed with assessment as prototypes come on-line.

Task 3) Develop, test, and revise as necessary HTML based...

Progress to Date : None from PSMFC, BPA has prototyped an HTML based map builder using ArcInfo (Sybase is not used at this time for a data host). At this time their prototype only works internally, they hope to have it available on the Internet soon.

Future Action: Begin/continue development as appropriate

Task 4) Based on results of 1-3, prepare... recommendation...

Progress to Date : None

Future Action: Proceed with assessment/recommendation as steps 1-3 are completed.