Preparing the IGS Strategic Plan 2008-2012: Solicitation of Ideas on the Future Needs of Scientific and other Users

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Abstract
The Vision Session (VISI) at this workshop aims to engage current and potential users of IGS toward formulating a vision in preparation for the next cycle of IGS strategic planning (2008-2012). Key to the vitality of IGS is intelligent navigation of the road ahead, with everyone on board. Planning should be a continuous, iterative, and inclusive process, requiring a collective sense on where we are and where we would like to be. Inclusive planning requires coordination; however the disciplined nature of this process should not distract us from the important point that *planning is only as good as the creative vision that drives it*. A "good" vision for IGS is here defined as providing a *focus for action* with the buy-in of IGS organizational elements. Thus we solicit feedback with creative ideas on the directions you would like to see IGS move toward. To be effective, this process should be welcoming, open and inclusive, logical, clear, creative, engaging, frank, and stimulating. Here we provide a background to this strategic planning process and analyze our progress toward meeting the current plan mainly through a series of questions that are open to discussion. We also propose an outline of the general strategic planning process. To stimulate this forum, we highlight specific examples of new possible directions, and we have solicited ideas from an invited panel who will share their diverse views. We encourage broad participation in the process, including discussion from the floor during the VISI session.

1. Introduction
The IGS Strategic Plan 2002-2007 will be reviewed and a new plan drafted at a dedicated retreat later this year. As one step in the preparation for this, this Vision Session (VISI) provides an opportunity to solicit the user community for the future needs of scientific and other applications, with a discussion on how IGS might meet those needs. This position paper, and a few invited contributions, will introduce the session to put it into the context of the strategic planning process, to highlight examples of applications that will need the products of the IGS, and to present critical and strategic issues for consideration and comment.

2. Background

2.1 Process to develop the IGS Strategic Plan 2002-2007
After four years of operation as an official service of the International Association of Geodesy, the IGS Governing Board held a two day retreat from 12 to 14 December 1997 to review the state of the service. A number of issues were highlighted and discussed in depth. The recommendations and action items arising from the discussions were summarized by Ivan Mueller in a paper published in the Proceedings of the IGS 1998 Analysis Centre Workshop, which was held shortly afterwards in Darmstadt in February 1998.

Some two years later, the Board began preparations for a second systematic review of the service and its future priorities. At the Governing Board Business Meeting in May 2000, a

Strategic Planning Committee was appointed consisting of Ch. Reigber (Chair), G. Beutler (Former Chair), J. Manning, R. Neilan, J. Ray, R. Serafin, A. Moore, N. Beck, B. Melbourne and I. Mueller. H. Bazoian later joined this group as consultant and facilitator. The Committee met in Frankfurt in September 2000 to evaluate the results of a questionnaire which had been sent to GB members and to many active contributors to the service, and to prepare for a retreat of the Board in Napa Valley, California, following the Board's meeting at the AGU Fall Meeting in San Francisco. The retreat took place on 12-13 December 2000.

By the time of the next Board meeting in Nice, April 2001, a draft Plan was available. The final version was adopted by the Governing Board at its meeting in San Francisco in December 2001.

2.2. The 2002-2007 Strategic Plan

The mission statement of the IGS currently reads as follows:

"The International GPS Service is committed to providing the highest quality data and products as the standard for global navigation satellite systems (GNSS) in support of earth sciences research, multi-disciplinary applications, and education. These activities aim to advance scientific understanding of the Earth system components and their interactions, as well as to facilitate other operational applications benefiting society."

The plan defines six "Long-term Goals and Objectives", and, derived from these, three "Strategies of the IGS." The goals and objectives and the strategies are analyzed below in sections 4 and 5 respectively.

3. Strategic Planning Defined

Planning provides a vision of where an organization is and where it should be going: hence it provides a *focus* and helps organize the *intensity* of effort.

It is clearly better to manage an organization such as the IGS through a planning approach rather than by ad hoc management. In addition, planning is seen as a key process in defining accountabilities and rolling out strategies and actions. The link between performance and plans provides an effective closure between individuals, teams and the organization as a whole.

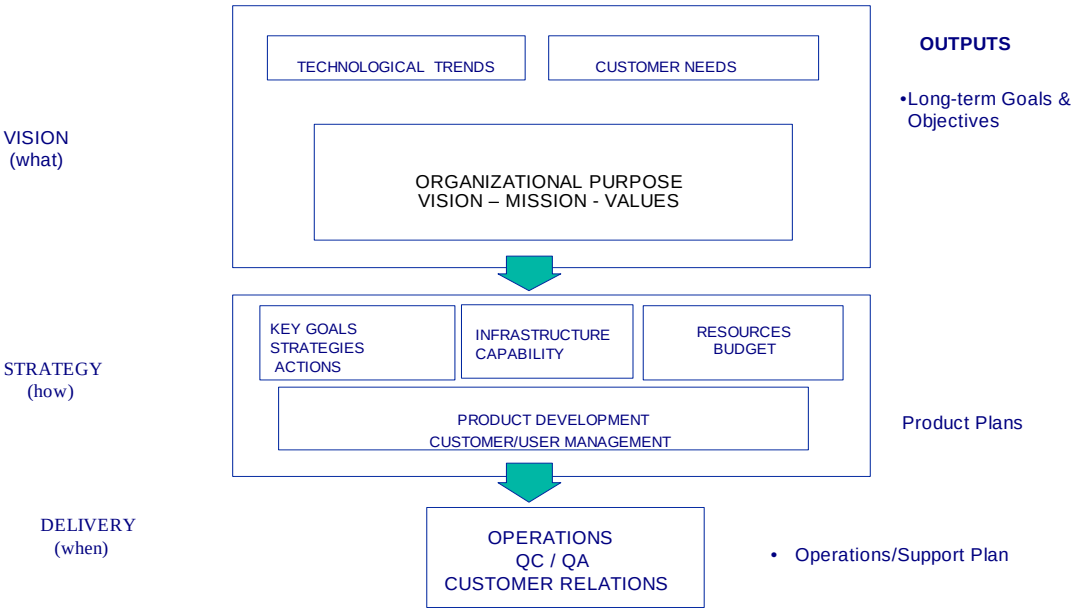
Strategic planning sets the time horizon and shifts the responsibility for decision making to the front line. It provides the framework where accountability is assigned and articulates specific actions in the context of the whole organizational effort. The rapid pace of change creates even more need for planning as a means to guide relevant decision-making that can take full advantage of an uncertain future.

The framework can be described as having three basic parts: a vision of where the organization wants to go (mission and long-term goals), a strategy of how this will be done, and a plan for delivery of products/services. The drivers of change are shown by **Figure 1** include technology trends, customer demands and organizational or business purpose. The combination of all these contribute to define the vision of an organization such as the IGS.

In response to the vision, the planning process identifies goals, strategies, actions, infrastructure, capability, resources and budget aimed at achieving that vision, typically for the next 'X' years (experience has shown that most of the *action* happens in the first year!). **Planning** can be a difficult task and there is no right answer - no planning process is a panacea or is perfect. It is an

evolving process, continually refined and made relevant to the organization. The planning process can be used to determine the way you want to **operate**.

Figure 1: Strategic Planning schematic



If the planning process is regarded as an integral part of the *management processes* and is used as a *framework* for performance and accountability, then the relevance increases. At the minimum, it is a process that may be carried out every year. Apart from the obvious tasks (such as action items) that can be measured by meeting a deadline or a budget, it is largely a *qualitative* management process and it is difficult to know whether all the desired outcomes have been achieved.

Hence although the identification of *key performance indicators* (KPIs) is necessary, slavish adherence to numeric 'targets' should also be avoided. The challenge therefore is to define KPIs that act as *triggers* or *agenda items* when organizational planning is undertaken (whether continuously or on an interval basis). There are two fundamentally different ways to define the KPIs: (1) have them tied explicitly to the goals and objectives of the IGS, or (2) have them related to corporate operations (governance, budgeting, product/service delivery, etc.). It is worth debating which is more appropriate for the IGS.

In summary, the planning process should strive for the following outcomes:

- Provision of an organizational focus
- Achieving ownership of the Plan.
- Integration of organizational directions, technological trends, customer needs and 'business purpose'.
- Recognition that it is an iterative process.
- Understanding of the user and user needs.
- Continuous improvement of the organizational products/services.
- Assigning accountability of people for meeting targets.
- Priority setting, if possible linked to individuals or team performance.

- Reflection of the way 'business is done', i.e. strive for best-practice within the context of the (sometimes unique) culture of the organization.

To put 'visioning' and strategic planning into proper context, remember the questions asked by the Cheshire Cat in 'Alice in Wonderland':

Where do you want to be?
Where are we now?
How will we get there?

Planning is about *focus* and *intensity* of effort. In other words the sharper the focus, the clearer the vision/mission, and the greater the chance that outcomes delivered will satisfy the user. Hence planning should identify the time, resources and intensity of *effort*.

In addition, the planning process must reflect the way the organization operates - it has to be part of the way the organization is managed. In the case of the IGS, there is a loose confederation of the Central Bureau on the one hand, and the various (independent) operating entities on the other, managed overall by a Governing Board. Apart from the issue of budgets, the blur between user and producer in the case of IGS products and a significant element of 'volunteerism', this structure is not that dissimilar to a large, geographically-diverse, multi-unit business.

Continuous improvement is part of any successful business. It is far preferable to integrate good management philosophy into an organization, than to have externally defined and standalone 'quality systems'. The challenge is therefore: how to track the relevance and effectiveness of the various organizational plans? In the case of the IGS, the Strategic Plan 2002-2007 exists, and it is necessary to have a mechanism or process by which:

- The Strategic Plan is regularly reviewed.
- Input is obtained from key stakeholders (users, IGS centres, IAG, etc.).
- An assessment is made as to whether the goals or objectives are being met.
- New initiatives may be planned and implemented.
- The effectiveness of operations (quality, timeliness, etc.) may be judged.
- Accountabilities are identified and performance is evaluated.
- Improvements can be identified.
- Resources are allocated (within the constraints of a volunteer organization).

4. Analysis of IGS Long-Term Goals and Objectives, 2002-2007

Six long-term goals and objectives are listed in the current IGS Strategic Plan.

4.1 Provide the highest quality, reliable GNSS data and products, openly and readily available to all user communities. This implies that the IGS should measure:

- *quality of data and products* – How do we measure this? Is quality improving? Are quality measures understandable? Are they readily obtainable? Do we get any complaints?
- *delivery mechanisms* – as delivery is via the Internet it would appear that apart from putting the data/products in the appropriate directories there is little to monitor. With which delay are the data/products made available? What is the reliability of such delivery? Do users want other modes of delivery? What real-time products are required?

4.2 Promote universal acceptance of IGS products and conventions as the world standard. How is this done at present? What is the relative effectiveness of brochures, web resources, conference stands? Has a SWOT (strengths, weaknesses, opportunities, and threats) analysis been done to determine whether the IGS might be 'challenged' in the future?

4.3 Continuously innovate by attracting leading-edge expertise and pursuing challenging projects and ideas. How do we measure this if (mostly) the same centres continue to contribute to IGS products and services as during the last 10 or so years? Can we identify the evolution of products and projects in which the IGS has been involved?

4.4 Seek and implement new growth opportunities while responding to changing user needs. How are new opportunities for growth identified? How does the IGS track changing user needs? What forums or mechanisms are there for recognizing these?

4.5 Sustain and nurture the IGS culture of collegiality, openness, inclusiveness and cooperation. Can we define clearly the IGS 'culture' and its values? How are these values communicated to stakeholders and others? How does the IGS welcome newcomers into its ranks and instil them with the IGS culture?

4.6 Maintain a voluntary organization with effective leadership, governance and management. How do we measure the 'performance' of management? How effective is the IGS governance? What is the role of the IGS 'leadership'? Are the selection/election processes appropriate? What new 'blood' has been attracted to leadership positions within the IGS?

5. Analysis of IGS Strategies and Actions, 2002-2007

Three strategies and associated actions are identified in the 2002-2007 Plan in order to achieve the stated objectives. These are briefly analysed here mainly from the point of view of how we can assess our effectiveness in implementing them (KPIs).

5.1 Ensure delivery of "world-standard" GPS (and other GNSS) data and products, providing the standards and specifications globally.

Actions/methods:

- *maintain and improve accurate, robust, and reliable GPS/GNSS data, products and delivery systems* – KPIs to measure/monitor accuracy, consistency and delivery commitments?
- *Promote IGS methods, data and products to current and potential users as a world "standard", and broaden the IGS community into other areas* – KPIs to measure/monitor user profiles? KPIs related to outreach and education? (Ambiguity: what is the "IGS community"?)
- Attract leading-edge talent for continuous innovation – KPIs to measure project involvement by IGS? KPIs for PR and marketing?

5.2 Expand the IGS by pursuing new opportunities for growth.

Explicitly mentioned here are involvement in LEO missions and in real-time and near real-time applications. Action/methods:

- *Pursue and develop implementation plans in support of LEO satellites* – KPIs for LEO involvement by IGS? New products/services?
- *Pursue and develop implementation plans related to real-time and near-real-time applications* – Standards and specifications? Engagement with users/customers as well as other service providers? KPIs in the form of demonstration projects?

5.3 Continuously improve the effectiveness of the IGS organization.

Actions:

- *Seek renewed commitment to the IGS mission, goals and objectives with existing and potential new alliances* – Effective strategic planning process? Dialogue with existing and potential new stakeholders?

- *Review and restructure the organization as necessary to align with the Strategic Plan* – Effective strategic planning process? KPIs related to leadership and management issues?
- *Ensure appropriate long-term levels of resources and funding* – KPIs related to fund-raising and long-term planning?
- *IGS Governing Board actions* – Who reviews the effectiveness of the Governing Board?

6. Measuring Performance against the Strategic Plan

An analysis of the strategies outlined in the IGS Strategic Plan 2002-2007 suggests the following three areas of focus:

- Do what we currently do, but do it better (as well as tell more people about it) …
- Find new things the IGS can do, and start doing them …
- Make sure the governance, leadership and management is up to the task …

To a greater or lesser extent these are echoed in the list of long-term goals and objectives of the IGS Strategic Plan. A first attempt to develop the basis for the definition of *KPIs* or *actions* related to the Strategic Plan is presented below.

6.1 Governance (and Management)

- *Governing Board Operations* – number of meetings, agenda-setting and mechanisms for input into GB discussions, standing agenda items and issues, minute taking and distribution, election processes, Executive Committee activities, review procedures (Terms of Reference, etc.).
- *GB Members* – attendance at meetings, contributions to development of policy, reporting on action items, delegated responsibilities and their execution (e.g. working groups, sub-committees, etc.).
- *Central Bureau and its Staff* – timeliness of execution of standing tasks, attendance at meetings (of all types) and feedback to GB, staffing and budget issues, succession planning, web presence to support governance/management.
- *Reporting and Communications* – GB documents, web updates, annual report, technical reports, (e)mailing lists, dealing with correspondence, etc.
- *IGS Element Reporting* – timeliness and completeness, quality management processes in place (including internal governance/management), contact points (effectiveness, etc.).
- *WGs and Pilot Projects* – evaluation of effectiveness?

6.2 Product Quality (and Service Provision)

- *Data/Product Quality* – statistics and (numerical) quality measures for all data/products of the IGS, accessibility and intelligibility of QC measures, historical trends, quality improvement goals.
- *Service* – feedback mechanisms from users (questionnaires, online feedback), satisfaction ratings, measures of reliability (e.g. statistics on missing data/products?), ‘feedback of feedback’ to the IGS components, and benchmarking statistics with respect to other geo-scientific services.
- *GNSS and the Future Products/Services* – planning processes, pilot projects, education and outreach activities, developing new initiatives, upgrade of operations.
- *LEO Applications (New Products/Services)* – ditto.
  (Identified as a ‘growth area’.)
- *Real-Time IGS Operations* – ditto.
  (Identified over many years as ‘the way to go’, so why the slow progress?)

6.3 Outreach (and Communication)

- *Presentations and Exhibits* – where-how-who details, display and handout materials, staffing issues, budget/resource allocation.

- *Workshops* – planning and administration, where-who details, speakers, participants, workshop materials. (AFREF can be a focal point.)
- *Parent (IAG) Organization* – communications, reporting and feedback, contribution to overall strategic plans and goals, governance issues.
- *Sister Organizations* – joint activities, communications, resource issues, leveraging options (FIG, IEEE, ION, UNOOSA, FAGS, ISPRS, COSPAR, etc.).

6.4 Impact of the IGS

- *Qualifying User Impact* – statistics on data/product downloads, statistics on journal/abstract citations, 'dollar value' of IGS contribution to research, non-researcher use?
- *User Profile* – description of user profile (and historical trends), developing country impact, IAG and sister organizations.
- *New User Forums/Input* – outreach/communication to non-geodetic users, representation on GB, relations with potential 'competitors'.
- *Maintaining Relevance in the GNSS Age* – Galileo 'strategy', identification of issues and concerns, quantifying benefit of new GNSS signals.

6.5 Stakeholder Satisfaction (Internal and External)

- *IGS Elements* – profile of centres/organizations (and historical trends), feedback/communications regarding IGS performance, issues or concerns?
- *Working Groups* – procedures, reporting, effectiveness?
- *User Satisfaction Levels* – mechanism for measuring IGS service, definition of 'service levels', commercial versus non-commercial issues and how they are handled.

6.6 New Initiatives (and Managing Growth)

- *New Initiatives* – mechanisms for identifying and investigating new products/services, new alliances, level of internationalization, upgrade of IGS governance/management structures.
- *Managing Growth* – appraising performance of components, remaining open to participation but applying stringent KPIs.
- *LEO Applications (New Products/Services)* – planning processes, pilot projects, education and outreach activities.
- *Real-Time IGS Operations* – future service requirements, impediments (technical and other) to RT operations.

6.7 Addressing Challenges (and Threats)

- *Strategic Planning Process* – tracking progress against the Strategic Plan, operational plan(s), annual reviews, KPIs and analysis of performance (not just at the technical level).
- *Visions* – where are we going? Who is 'driving' the IGS?
- *Standards and Modelling* – mechanisms for (AC) model/methodology proposal, testing and adoption?
- *RT-IGS* – for which community? Internal (ACs, etc.) or external users?
- *Galileo Strategy* – what is it? How do we communicate it? How do we use it to drive changes in IGS operations

7. More Questions to Consider

Some more questions for consideration include:

- Is the IGS is on the right track? In particular, are we thinking too narrowly, or are we really capturing and focusing on what is important to our mission over the next 10 years?
- Should the IGS concentrate on research, on being at the forefront?

- What are the foreseeable needs of science applications, natural hazards, space missions, and other applications and users through 2012?
- How can those needs be met, and what does this imply for changes and required action within IGS?
- Are we sufficiently open to innovations, new products, and new participants? Are the current plan's strategic directions (LEO's, new GNSS's, real-time products) still the key ones for the coming years?
- What changes are needed in the IGS in order to be able to play its due role in the Global Geodetic Observing System (GGOS)? How can we incorporate the needs of GGOS into the IGS operations?
- How can we ensure the adequacy of the global station network?
- How will IGS operations be funded in future?
- Should we offer tailored services (at a price)?
    - IGS Commercial Office, acquiring contracts and distributing funds to the components involved; or …
    - Ad hoc consortia of IGS agencies, formed as needed to respond to particular user requests, e.g. GGSP consortium, EPIGOS consortium, GOCE, …
    - Some basic IGS products would remain open and available with no guarantee and at no cost to the user (funded as before as a basic infrastructure, with or without contributions from the paying customers?)
- Is there a role for a commercial office in the IGS? (Or should this idea be definitively dropped?)
- What elements of the Strategic Plan remain valid for the coming years? What can be deleted? What is missing?
- What needs to be improved?
- Do we need to change the way we operate and manage our activities (identifying and responding to user requirements; GB, EC, CB, technical elements; reviews, workshops, outreach, elections, appointments, etc.)?

8. Case Studies: Examples of Emerging User Needs that Raise Questions for IGS

Two presentations for the VISI session highlight emerging user needs that raise questions as to how IGS might meet those needs. An analysis of these specific needs is a useful exercise to illustrate concretely the consequences for a vision of IGS in the coming years, and how that vision implies a focus of action that would require buy-in by various organizational elements of IGS. The abstracts are reproduced below verbatim, since they explicitly present a vision and suggest how IGS might accommodate their needs.

8.1 Real-Time Earthquake Source Determination for Tsunami Warning Systems, by G. Blewitt, C. Kreemer, W.C. Hammond, H.-P. Plag, S. Stein, and E. Okal.

The 26 December 2004 Sumatra earthquake (Mw 9.2-9.3) generated the most deadly tsunami in history. Yet within the first hour, the true danger of a major ocean-wide tsunami was not indicated by seismic magnitude estimates, which were far too low (Mw 8.0-8.5). This problem relates to the inherent saturation of early seismic-wave methods. Here we show that the earthquake's true size and tsunami potential can be determined using Global Positioning System (GPS) data up to only 15 minutes after earthquake initiation, by tracking the mean displacement of the Earth's surface associated with the arrival of seismic waves. Within minutes, displacements of >10 mm are detectable as far away as India, consistent with results using weeks of data after the event. These displacements imply Mw 9.0 ± 0.1, indicating a high tsunami potential. This suggests existing GPS infrastructure could be developed into an effective component of tsunami warning systems.

IGS has an opportunity to contribute to future tsunami warning systems around the globe. An important aspect is real-time access to IGS data and precise GPS orbit and clock information, and software to analyze these data in real time. In this study we showed that current 30 second data from the existing IGS network would have been sufficient to identify the extreme tsunami danger. While it is likely that higher rate data would incrementally improve sensitivity, it is clear that densification of the IGS network around subduction zones would be more valuable. However the important message is that using the currently IGS network configuration can be much faster at accurately determining large earthquake magnitudes than using current seismological networks. To assess design requirements we show the effect of adding near-field stations, and the effect of orbit quality by comparing the use of real-time estimated orbits and clocks, ultra-rapid IGS orbits, and the Broadcast Ephemeris.

8.2 Long-Term Consistent Monitoring of Global Precipitable Water Monitoring by J. Wang, L. Zhang, and A. Dai.

A 2-hourly data set of atmospheric precipitable water (PW) has been produced from ground-based Global Positioning System (GPS) measurements of zenith tropospheric delay (ZTD) by using the 2-hourly IGS tropospheric product. The PW data are available every two hours at about 80-268 International GNSS Service (IGS) ground stations from 1997 to 2004. An analysis technique is developed to convert ZTD to PW on a global scale. Special efforts are made on deriving surface pressure (Ps) and water-vapour-weighted atmospheric mean temperature (Tm). Ps is derived from global, 3-hourly surface synoptic observations with temporal and vertical adjustments. Tm is calculated from NCEP/NCAR re-analysis with temporal, vertical and horizontal interpolations. The PW dataset is validated by comparing with radiosonde, microwave radiometer (MWR) and satellite data. The comparisons show no significant and systematic bias in the GPS-derived PW data. The scientific applications of the PW dataset include studying the diurnal variations in PW over the globe, quantifying spatial and temporal inhomogeneity and biases in global radiosonde PW data and estimating the diurnal sampling errors in twice-daily radiosonde humidity. The new 5-minute IGS ZTD product available at all IGS stations will be explored in the future work.

Based on our experience with the IGS tropospheric product, we would like to make the following recommendations on improving future IGS products. (1) The long-term stability (consistency in time) is crucial for the application of IGS PW data in climate monitoring studies. Every effort should be made to maintain the consistency of ZTD data in time, including minimizing changes in both instruments and analysis methods. (2) It is very important to investigate various biases in the ZTD product with special emphasis on diurnal biases, such as diurnal mapping function errors. Among the existing water vapour datasets on a global scale, only GPS-estimated PW dataset can provide sufficient temporal resolution to resolve the diurnal cycle of the atmosphere. Diurnal biases in ZTD would result in spurious PW diurnal variations. (3) The surface meteorology sensors with at minimum accurate pressure measurements at all IGS stations would be very useful for calculating the dry delay and removing atmospheric pressure loading of the earth surface. Especially as the 5-min ZTD data become available, the high resolution surface pressure data are required to derive the 5-min PW data. In addition, the IGS surface met sensors need to be regularly maintained and calibrated; the data need to be carefully quality controlled. Current limited IGS surface met data bear various problems. (4) We recommend that some future IGS stations be co-located with the future reference radiosonde network for cross-validation and improving mapping function models. (5) We suggest that in the future the IGS products can be better documented by incorporating details on data characteristics, how they were derived and user-friendly metadata.

8.3 Case Study Analysis

The first example presents a clear need for near-real-time high-precision positioning that could be facilitated by IGS. At the lowest level, IGS would provide real-time data from a well-distributed global network of stations, together with denser networks near subduction zones that are capable of generating far field tsunamis. At a high level, IGS could provide near real-time orbit and clock products that would enable precise point positioning. At the highest possible level, the IGS products might even include real-time station coordinate time series. This could provide a real stimulus and tangible focus for the Real Time Working Group, and beyond. Another aspect of this first example is the potential high profile and deep sense of well-being that it could bring to IGS as a system that can save lives, with a clear impact on the well-being of society.

The second example reveals several lessons for IGS. First is the importance of stability, long term consistency and standards. This has to be balanced by the need to continuously "improve". Reprocessing is one way to handle this issue. Therefore, if reprocessing becomes a long-term strategy for IGS, it should be handled in a systematic rather than ad hoc way. Efforts are currently moving in this direction. Secondly, this example illustrates the concept of "value added" when relatively minor changes can be made to the global IGS network, in terms of extra hardware and careful choice of collocation with other instruments (that in this case are not geodetic instruments!). Thirdly, there is an opportunity to improve GPS solutions, through improved atmospheric modelling, which should result by locating GPS stations at radiosonde sites.

Each of these examples illustrates possible future directions for IGS. It is important to note that considering specific applications such as the ones proposed have the important effect of providing a *focus* from which flows the goals, strategies, actions, and a sense of urgency and intensity. Without specific applications, the goals remain rather general and nebulous, and for "the sake of technology." The opposite approach might be characterized as "build it and they will come." We suggest that we strive to be aware of which model is implicitly being assumed by working groups that are developing new capabilities for IGS, and identify whether or not there may be a lack of focus because no specific applications or classes of user have been considered.

9. Proposed Process to Develop an IGS Strategic Plan 2008-2012

The process to develop the update to the current Strategic Plan started with some discussions in recent Governing Board meetings and at the previous workshop, and continues with the GGOS and VISI sessions of the 2006 Workshop. A summary of the discussions and any conclusions of these sessions and the subsequent discussion in the 27th GB Meeting will be incorporated in the workshop proceedings.

It is intended to organize later this year a dedicated retreat of the Governing Board and invited guests to systematically review and revise the Plan. As previously, a professional facilitator will lead the process. The aim will be to produce a draft Strategic Plan 2008-2012 which can be refined in spring 2007, and finalized and adopted at the first GB meeting of next year.

Although we can expect that a revision of an existing Plan should be significantly simpler than the creation of a Plan from scratch, it is clear that a number of difficult issues remain to be resolved.

10. Concluding Remarks

In a world of users and technology that is ever changing, our belief is that strategic planning is important to the vitality and future success of IGS. We make the case that planning should be a continuous, iterative, and inclusive process. Good planning begins with creative visions that can act to focus our actions and win the commitment of the essential elements of IGS. The right

visions for IGS cannot be derived in a prescribed manner, but what we can do to solicit creative input is to provide an environment conducive to open discussion from the diversity of participants and users in IGS. Input is being solicited and stimulated by various means, and we encourage IGS users and workshop participants to think creatively about your vision and make your opinions heard. The outcome of this will be a collective sense of how to proceed with the IGS Strategic Plan for 2008-2012, and initial considerations for the content of a draft plan.