The By * Family of Libre Services for Network Service Providers

A strategy for rapid entry into the Internet Application Services market

A proposal

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Available on-line at:
http://www.libreservices.org/libreManifesto/byStarGenericProposal

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1 Executive Summary

This proposal is directed towards any provider of network-oriented services. This includes companies such as ISPs, wireless network providers, and telephone companies. Throughout this document we will refer to such companies as “Network Service Providers,” or “you,” or “the Client.”

Such a company has a large network infrastructure and a large subscriber base, to whom it typically provides Layer 3 services, either wired or wireless. It may also provide some limited Layer 7 services directly, and other services in partnership with specialist Layer 7 companies.

This proposal presents a strategy for a Network Service Provider to rapidly extend its service offering to include comprehensive Layer 7 capabilities. The result will be a complete, fully integrated communications and computing service for your subscribers.

This proposal is **not** about a conventional strategic partnership with a Layer 7 company. How this proposal is different is that the Network Service Provider itself will become an independent Layer 7 operator. It will provide Layer 7 services to its subscribers directly, without needing a strategic partnership with anyone.

Nor is this proposal about a narrow set of niche Layer 7 services, catering to a specific mode of usage such as wireless. It is about the Network Service Provider becoming a complete, full-fledged Internet Application Services provider, in the same market arena as AOL, MSN, Yahoo and Google. And it is about doing so in a highly cost-effective manner.

The proposal is based on the following key premises:

- For any Layer 3 service provider with a large subscriber base, entry into the Layer 7 service market represents a major potential business opportunity.
- In the general software domain, free software is fully proven as a viable alternative to the proprietary software model.
- In the network services domain, an analogous model to the free software model exists in the form of the **Libre Services** model.
- Based on the Libre Services model, a Layer 3 service provider (wired or wireless) can move decisively into the network-based services arena.
- All the necessary assets exist to enable any Network Service Provider to do this, in the form of the **By*** (“by-star”) family of Libre Services.

We propose to work with you as consultants to deploy By* as a Layer 7 service operated by you, the Network Service Provider, and under your full control. The opportunity presented here is large, complex and ambitious. It is based on a radically new model for delivery of Internet Services, demanding sophisticated domain-specific understanding, and an entrepreneurial spirit.

The benefits to you are: immediate entry into the Internet Services arena as an independent service provider, greatly expanded scope of relationship with your existing subscribers, and access to a much larger and growing user base.

1.1 Part of a bigger picture

The proposal presented here is part of something much bigger.

The Libre Services and By* models described in this proposal have enormous implications. The Libre Services development model, and the By* unified services model, can transform the entire global Internet completely. They can transform it from its limited, proprietary, *ad hoc* incarnation of today into something far more powerful. The proposal we are presenting is an early manifestation of the next major stage of evolutionary growth of the Internet.

But ambitious though it may be, this initiative is fully thought out and fully documented. The complete picture is drawn in a triad of documents that together describe every aspect of the Libre Services and By* concepts. These are:

- *Libre Services: A non-proprietary model for delivery of Internet Services* [1].
- *The By* Concept: A unified model for Internet Services* [2].
- *The By* Family of Libre Services: The future of the Internet Services industry* [3]—the Neda Open Business Plan.

These three documents describe everything necessary to understand the complete big-picture context for this proposal.

1.2 If not now, then prepare

What we are proposing here represents a significant shift in Layer 7 strategy for your company. But clearly, there are a number of barriers to immediate implementation of this. Specifically:

- You may already have a Layer 7 strategy in place, including existing services and partnerships. These cannot be abandoned overnight.
- The generative and propagative power of free software is not yet widely understood within the industry at large. Your organization may not be ready to accept this as a viable technological model.
- The non-proprietary nature of the Libre Services model may conflict with your current business models.
- Making the strategic shift from your current Layer 7 approach to this new approach is a non-trivial thing. This requires thought, analysis and buy-in from multiple constituencies within your organization.

Realistically, therefore, we do not seriously expect you to make an abrupt change of direction based on this written proposal.

On the other hand, it is now abundantly and incontrovertibly clear that free software is the way of the future. This may not be well understood among the industry at large, but for those of us who really know what's going on, this is as conclusive a factual reality as global warming. Furthermore, the opportunity presented by the By* Libre Services is completely real. There is nothing theoretical or speculative about the ability of your company to deploy By*, exactly as we describe.

This proposal therefore warrants some degree of internal thought and analysis. Realistically, acceptance of this proposal is not an all-or-nothing thing. Rather, it is a matter of degree and timing. What we present here is our vision of the future. To the extent that you agree with this vision, you may wish to begin preparing for it.

At the end of this proposal we present our suggested next steps for how to begin this preparation. What we suggest is a positive, proactive approach. But the approach you take will, of course, be the one that is right in your own company context.

If this proposal interests you at any level, either as something to begin active preparation for in the near term, or as something to take a long-term wait-and-see approach, we are available as consultants to assist you in your process.

2 Background

The Internet has given rise to an enormous new industry: the Internet Services industry. And in addition the large new class of network-based services represented by this industry, a fundamental change is occurring in the way traditional software applications are being provided to the user. Increasingly, software applications are migrating towards a service-based implementation, rather than being run locally on the user's own PC. This trend is taking place for both individual and business end users.

The network-based service model is thus emerging as the dominant computing and communications paradigm for the end user. All usage modalities must become fully integrated and unified components of the network-based model. This includes in particular the wireless and mobile aspects of personal computing.

The corresponding business opportunities, both in the general Internet services arena and in the wireless domain, are gigantic.

2.1 Libre Services: A non-proprietary services model

Within the general software domain, free software is a proven alternative to the proprietary software model.

But as yet there is no equivalent to the free software model within the services domain. Virtually all existing Internet Services are based on the traditional proprietary software model. This greatly limits the growth potential of the Internet Services industry.

The solution to this is the **Libre Services** model, a completely non-proprietary model for delivery of Internet Services. Libre Services are an extension of the principles of free software into the Internet Services domain. They are Internet Services that can be freely copied and reused by anyone. Any company can reproduce and host any Libre Service, either for its own use, or for commercial or non-commercial delivery to others. The Libre Services model exists in relationship to the proprietary Internet Services model of AOL, MSN, Yahoo and Google, in an analogous way to how GNU/Linux exists in relation to Microsoft Windows.

The Libre Services model is described in detail in the paper titled *Libre Services: A non-proprietary model for delivery of Internet services* [1], available online at:
http://www.freeprotocols.org/libreConcept/accessPage.html

The Libre Services development work was done under the auspices of the Free Protocols Foundation. For information about the Free Protocols Foundation see:
http://www.freeprotocols.org

2.2 By*: A unified services model

The Internet Services industry has arisen in a completely unplanned, disorganized, *ad hoc* manner, driven by a multitude of independent commercial initiatives. The various industry capabilities have been built based on immediate business expedience, rather than by any sort of coherent engineering design. The result is the Internet Services industry as it exists today: chaotic, uncoordinated, and lacking any sort of uniformity or consistency of structure. The services industry falls far short of what it can be, and what it can do, if designed for full, consistent, uniform interoperability across all types and manners of service usage.

The solution to this is the **By*** model. By* (pronounced "by-star") is a unified services model, unifying and making consistent a large number of services that currently exist in functional isolation. The By* model is based on formal engineering design, rather than short-term marketing considerations. In creating By* we have addressed the following sorts of design issues:

- What are the key types of entity (individuals, businesses, etc.) that must be represented within a generalized web structure?
- For each type of entity, what is required to represent that entity in a highly generalized abstract form?
- What structures and conventions are required so that these entities can be instantiated and named consistently, at a scale of 6 billion?
- What general classes of services are required to enable complex interactions among these entities?

None of these questions was considered during the uncontrolled organic growth of the Internet that brought us to where we are today. And this is what makes By* different. By* is a formal model for bringing structure and order to the Internet, at the scale of the entire planet.

By* is based on a set of key abstractions, representing the major real-world entities that must be represented within a generalized web structure. These entities include such things as individual persons, businesses, physical locations, and events. For each such entity we have defined the structures and conventions required to represent, instantiate and name that entity in a unified consistent way, and at a very large scale. We have then defined the major classes of services required to manage these entities, and to allow highly generalized interactions within and among each other.

The result is a coherent, integrated family of services, enabling complex interactions among people, businesses and information.

2.3 The By* family of services

The By* family includes services oriented towards each type of abstracted entity. In particular, By* includes a group of three services specifically oriented towards the needs of individual persons. It is this group that is of most immediate relevance to Network Service Providers. This group consists of:

- **ByName**. ByName provides a complete set of Internet services for the individual user, including a personal domain, personal website, e-mail, integrated support for mobility, WhiteBerry mobile messaging, and various other capabilities.
  http://www.ByName.net

  Example named ByName instance: mohsen.1.banan.byname.net

- **ByNumber**. ByNumber provides access to appropriate components of By* service functionality, but based on a numerical ID assigned to the user instead of the user's name. ByNumber provides an alternative means of access to services using numeric devices such as telephone keypads.
  http://www.ByNumber.net

  Example named ByNumber instance: 20000.ByNumber.net

- **ByAlias**. A similar set of services to ByName, but based on an alias instead of the user's real name. All user-specific elements of a user's ByName account (domains, websites, e-mail accounts, etc.) are based on the user's real name. But there are circumstances where a user may wish to protect his or her true identity behind an alias. The ByAlias service supports this requirement. It is a companion service to ByName, providing appropriate services while protecting the user's identity.
  http://www.ByAlias.net

  Example named ByAlias instance: nemesis.ByAlias.net

The By* family also includes services oriented towards business entities (BySMB/ForSMB), physical locations (ByWhere), events (ByEvent), deceased persons (ByMemory), and services for publication of information (ByTopic). Last and most important, By* includes a set of services allowing complex interactions among the various types of abstracted entity (ByInteraction).

All By* services are Libre Services, and as such can be freely copied and reproduced by anyone. We have established the BySource and ByBinary software distribution sites to provide the resources required to reproduce any By* service.

Complete details about the By* model are provided in the paper titled *The By* Concept: A Unified Model for Internet Services* [2], available online at:
http://www.By-Star.net/docs/ByStarConcept

2.4 The By* development model

The free software movement is a flourishing creative environment, generating a constant stream of new and better software packages, duplicating and surpassing the capabilities of an ever-increasing portion of proprietary software territory. Indeed for any particular item of functionality, there are typically multiple alternative free software packages available.

In this environment the model for implementation of By* service functionality is not one of original software development. Rather it is a process of intelligent selection and integration of functional components from the free software creative environment.

So in creating By* our task has not been to write functional software components—in fact we have written almost none. Our main task has been to make careful engineering choices among the available free software components, and integrate these properly into the By* framework. In making these choices we consider not just the features and capabilities of each software component, but also the compatibility of the component within the overall By* architecture.

Virtually all the initial By* service functionality has been created this way. The following are some of the basic By* features that have been included by this process:

- A named entity domain
- A public website
- A private portal for access to services
- e-mail
- eFax, a service for sending and receiving faxes
- WhiteBerry mobile messaging
- A photo gallery
- GeneWeb, a genealogy software program

We will continue to select and incorporate additional software packages as these materialize within the free software environment. We will not create, so much as we will harvest. Or to paraphrase the common industry dictum: *Good programmers write good software; great programmers reuse and integrate*.

This is the extraordinary power, and magic, of free software: the ability to take things and reuse them at extremely low cost. This is what has allowed a small consulting company in Bellevue to create the beginnings of something that can eventually displace MSN and Google.

2.5 Development status and roadmap

The description of By* provided here and in *The By* Concept* paper represents an overarching conceptual definition and direction statement. The By* family services themselves are a work in progress, with the planned services in varying stages of development. The following is the current status of the By* services, and the roadmap for future development:

- ByMemory is complete and fully functioning, ready for immediate account creation and usage by anyone. It is already populated with a number of active accounts, providing tangible demonstration of the Libre Services and By* development models.

- ByName, ByNumber, ByAlias are under active and continuing development. These are the services that are most immediately relevant to individual subscribers. Though lacking their eventual richness of functionality, a complete set of basic features and capabilities has been implemented, and they are ready for immediate deployment as live services.

- BySMB/ForSMB are under active development. These are slated for completion next, and are expected to become available in early 2007.

- ByWhere, ByEvent, ByTopic remain at concept level only, with no user functionality implemented.

- ByInteraction remains at concept level only, with no user functionality implemented. This will be the last of the By* family to undergo development and become available.

A more complete description of the status of each service is provided in the Neda Business Plan, *The By* Family of Libre Services: The future of the Internet Services industry* [3], available online at: http://www.neda.com/StrategicVision/BusinessPlan

The intended scope of By* is extremely large—our goal is to establish By* as a new model for delivery of Internet Services, globally. The Neda Business Plan provides a complete description of our strategy for moving towards this goal, including details of our roadmap for continued development and deployment of the By* services.

As the full suite of By* family services becomes complete and available, these additional services can also be deployed by your company, if this fits in with your broader technical and business strategies.

3 The Opportunity for Network Service Providers

Network Service Providers typically provide Layer 3 services to their subscribers. In the case of ISPs this is their primary service model; in the case of wireless network providers and telephone companies this is a secondary service model. But in either case the Network Service Provider has a direct relationship with a large subscriber base.

For any Layer 3 service provider with a large subscriber base, entry into the Layer 7 service market represents an obvious business opportunity. But under the proprietary services model the Network Service Provider cannot provide Layer 7 services to its subscribers directly. Instead, it must enter into appropriate partnerships with proprietary Internet Service providers.

But an alternative approach is for the Network Service Provider to deliver Layer 7 services directly to its own subscribers using the Libre Services model. Under this approach the Network Service Provider itself becomes the Internet Application Service provider, and a relationship with a proprietary provider such as AOL is no longer needed.

The By* family of services provides precisely what is needed to accomplish this. The combination of your existing Layer 3 services and the By* Layer 7 services provides a complete computing and communications environment, both fixed and mobile, for your subscribers. This is the future of the Internet Services industry, available today.

The business benefits are clear and obvious. They are:

- Immediate entry into the Layer 7 services market as an independent service provider.
- A far more comprehensive and committed relationship with your existing subscriber base.
- Access to a much larger and growing user base.

And this can be done extremely rapidly, and at very low cost.

In the longer term the benefit is early entry into the Libre Services arena, which we regard as the ultimate future of the Internet Services industry.

3.1 Business models

A Network Service Provider can deploy the By* services based on any of several different business models:

- It can become its own independent Libre Service provider, with the By* services rebranded under its own name.
- It can become its own proprietary Internet Service provider, with the By* services rebranded under its own name, but not maintained as a Libre Service.
- It can enter into a business partnership with Neda, in which Neda delivers the By* services to the Network Service Provider's subscribers.
- It can become a franchise provider of the By* services, providing and maintaining the services under the By* branding.

Each of these business models offers a different pattern of risks and benefits. Your own company can adopt the model that best fits its overall business strategies.

3.2 Corporate financing

The proposal presented here represents a limited consulting relationship with Neda.

But as we have indicated, the Libre Services and By* initiatives have a much bigger future. If your company wishes to participate in the Libre Services and By* initiatives in a broader context, a more formal partnership and corporate financing are available options.

The Neda Business Plan provides complete details of the opportunity open to potential business partners, including the availability of equity as a vehicle for corporate partnership and investment. If this is something that may be of interest, please include your corporate development team as participants in further discussions with us.

4 About Neda

We propose to work with you as consultants to deploy By* as your own service offering. We have all the necessary experience and assets for this.

Neda Communications, Inc. is a provider of consulting, web hosting, and software engineering services to the data communications industry. We are a privately held company, founded in 1991, and with a proven track record of technical and business expertise.

In addition to our consulting and engineering services, we have a long history of leadership and innovation within the data communications industry. We are the authors of numerous articles and white papers relating to the data communications and Internet industries. Most recently we are the originators of the Libre Services concept, and the developers of the By* family of services. For complete details visit our company website at: http://www.neda.com

We maintain our own state-of-the-art Data Center to support our web hosting and colocation clients. If necessary this asset can be used to support Phase 1 of the proposed project, as described below. Details about the Data Center are available on our website at:
http://www.neda.com/InternetServices/OurDataCenter

5 Project Outline

In the remainder of this document we present an outline of how we propose to work with you. Given the large scope of the intended project, we propose that the project be approached in two phases.

Phase 1 will consist of business and technical analysis, and deployment of an initial small-scale pilot service. Phase 1 will have the following goals:

- Conduct a business and technical analysis of the addition of Layer 7 services to your existing Layer 3 services. Establish the appropriate technical and business models, and other initial deployment parameters.
- Deploy By* at a scale of 1000 within your own network.
- Develop a comprehensive implementation plan for Phase 2.

Phase 2 will consist of large-scale development and deployment. The details of Phase 2 will be established during Phase 1.

5.1 Scope of work and deliverables

We anticipate the following tasks and deliverables for Phase 1:

- Assist you in conducting a business analysis of By* within your own context. Establish the appropriate business model for deployment of By* services.

- Assist you in conducting a technical analysis of By* within your own context. Establish which By* services and functionality are most relevant and appropriate for deployment.
- Define the scope and scale of the initial pilot service.
- Deploy the pilot service at a scale of 1000. If necessary the Neda Data Center can be used for this purpose.
- Formulate a detailed implementation plan for Phase 2.

5.2 Schedule

We estimate it will take approximately 3 months to complete all Phase 1 tasks and deliverables.

If you are interested in pursuing this proposal, we will initially work with you to establish a formal Statement of Work for Phase 1. We will provide a more accurate schedule once the Statement of Work is in place.

5.3 Commercial terms

The commercial terms for this project will be governed by our *Rates and Policies for Contracts and Consulting*, available on request.

We propose that Phase 1 of this project be undertaken under a consulting (time and materials) contract. For Phase 1 we can offer our Long-Term consulting rates, as described in our *Rates and Policies*.

We estimate that Phase 1 can be accomplished by two Senior Consultants contributing 30 hours per week for 12 weeks, and one Staff Consultant contributing 25 hours per week for 12 weeks.

Actual times and costs will depend on a number of factors to be determined, such as the precise scope of work and the availability of Client staff to provide technical liaison. Our estimates are based on reasonable assumptions and our experience with other projects of a similar nature.

We will provide a more precise estimate once a Statement of Work is in place. We will then work with you to establish firm schedules and budgets.

5.4 Project management

On the Neda side, Mohsen Banan will take responsibility for overall project management. He will also take top-level responsibility for all technical analysis and engineering work.

Other Neda personnel who may be involved in the creation of deliverables for this project include: Andrew Hammoude, Pean Lim, Pinneke Tjandana, and Mark McWiggins. Professional biographies for all Neda personnel are available on our website at:
http://www.neda.com/AboutNeda/CompanyProfile/People

On your ("the Client") side, we will require that you assign a single person to be responsible for project administration. This will be the primary contact person from whom Neda can receive direction, and to whom inquiries can be made.

As per customary practice, such matters as project coordination, periodic reporting and inquiries will be conducted by means of telephone, facsimile, e-mail and in-person meetings. We will provide periodic progress reports to allow monitoring and on-going review of the project by the Client.

6 Next Steps

For any Client wishing to proceed with this project we are ready to provide assistance as consultants in whatever manner you see fit. However we suggest the following as appropriate next steps to move things forward:

1. (Client action.) The Client to review this proposal, and external documents and websites as necessary. The following references are particularly relevant:
   - *Libre Services: A non-proprietary model for delivery of Internet services* [1]
     http://www.freeprotocols.org/libreConcept/accessPage.html
   - *The By* Concept: A unified model for Internet Services* [2]
     http://www.By-Star.net
   - The Neda Open Business Plan. *The By* Family of Libre Services: The future of the Internet Services industry* [3]
     http://www.neda.com/StrategicVision/BusinessPlan
   - Neda Communications, Inc.
     http://www.neda.com
2. (Neda/Client action.) If you are interested in pursuing this further, an initial meeting to be scheduled for a first round of discussion and Q & A.
3. (Neda/Client action.) Neda and the Client to work together to establish a formal Statement of Work for Phase 1.
4. (Neda action.) Based on the Statement of Work, Neda to create a formal project proposal for review and consideration by the Client.

Finally, it is worth noting that if you were to attempt to become a proprietary Internet Services provider, the required development costs would be on the order of hundreds of millions of dollars. Instead, the equivalent capability is being offered to you at no cost. The price quoted under Commercial Terms represents only the cost of delivery.

References

[1] Mohsen Banan. Libre Services: A non-proprietary model for delivery of Internet Services. Neda published document, Neda Communications Inc, January 2006. Online document is available at http://www.libreservices.org/docs/.

[2] Neda Communications, Inc. The By* Concept: A Unified Model for Internet Services. Neda published document, Neda Communications Inc, January 2007. Online document is available at http://web.by-star.net/docs/ByStarConcept.

[3] Neda Communications, Inc. The By* Family of Libre Services: The future of the Internet Services industry – An Open Business Plan. Neda published document, Neda Communications Inc, January 2007. Online document is available at http://www.neda.com/StrategicVision/BusinessPlan.