The By* Family of Libre Services:
The future of the Internet Services industry

An Open Business Plan

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This Business Plan is a live document, undergoing periodic update as our plans move forward. Both the latest version and previous versions are archived at the above location.

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1 Executive Summary

Neda Communications, Inc. is an Internet Application Services company. We provide consulting and Internet services to small-to-medium businesses (SMBs) and to individuals. We are a one-stop full-service shop—we maintain our own Data Center, and we provide a full suite of services for clients requiring any sort of Internet presence. Our revenues derive from the customary sources: consulting, website development, hosting, and subscriber service fees.

So far, there is nothing unusual about any of this.

But our technological model for delivering services, and our long-term strategic vision, are very different from the mainstream. Our Internet services model is radically different in two respects, each having major consequences. First, our Internet services are based on the free software development model. And second, they are a unified services model. For these reasons our model has the potential to transform the Internet Services industry completely, and become the new model for delivery of Internet services, planet-wide.

But first, a bit of stage setting.

1.1 Setting the stage

Part of the debate about free software is now over, while part continues. The part that is over is any question about the viability of free software as a development model for creating large-scale, complex, relevant software systems. GNU/Linux is a fully viable free software alternative to the proprietary Microsoft Windows operating system, against which it continues to make steady inroads. Mozilla is a fully viable alternative to the proprietary Microsoft Internet Explorer, and is also experiencing steadily increasing usage. These and numerous other free software projects—Apache, Qmail, Sendmail, Bind, Plone, Snort and many others—have now become essential and widely used components throughout the software and Internet industries.

And apart from such well-known and high-profile projects, behind the scenes the free software movement has become 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.

And the fundamental free software creative dynamic has now also become very well understood: the free software development model allows *unrestricted creative reuse of existing assets at essentially zero cost*. It is from this dynamic that the free software model derives its tremendous generative power. Free software is thus fully established as a generative engine and an industry reality, and is here to stay.

But the part of the debate that continues is whether or not this has any meaningful commercial dimension. Within the proprietary software domain a powerful revenue-generating engine exists in the form of the traditional software licensing model. But this revenue source is absent under the free software model. In its place there are a number of possible business and revenue models, but in all cases these lack the large-scale repeatability that makes things really interesting from a business perspective.

There thus remains a conceptual gap, a puzzle, about how the powerful generative forces of free software can be turned into a large-scale, repeatable, revenue stream. But this puzzle is now solved. And in this business plan we present the solution.

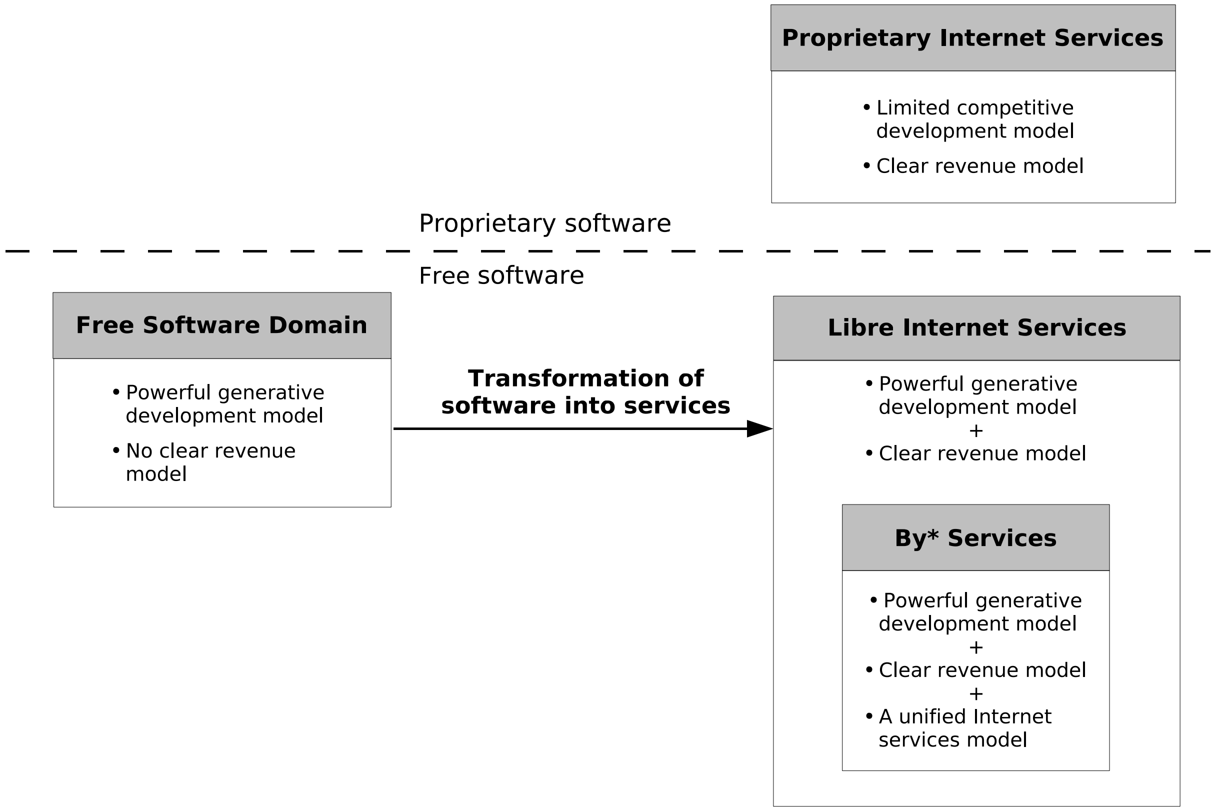

Figure 1: Free and Proprietary Software Domains

1.2 The transformation of software into services

The Internet has given rise to an enormous new industry: the Internet Services industry. And within this industry the business and revenue models are quite clear and obvious. The largest and most obvious are the subscription fee model of generalized service providers such as AOL, and the advertising model of numerous specialized no-cost service providers, demonstrated most spectacularly by Google. Both the subscription fee and advertising models are unlimitedly scalable, thus resulting in the gigantic commercial Internet of today.

But the Internet Services industry of today is a fundamentally proprietary construct. While proprietary service providers can and do make frequent use of free software components within their services, they do not espouse the free software development model itself, and their technical development process remains competitive and proprietary. Though they may incorporate free software components, AOL and Google are certainly not free software.

Thus as we look at the software and Internet industries of today we see two largely disjoint cultures. As illustrated in Figure 1 we see the free software domain, with its powerful generative and propagative development model, but lacking any clear large-scale monetization model. And separate from this we see the proprietary Internet Services domain, with enormous revenue and business consequences, but handicapped in scope and scale by its competitive development model.

But now we are witnessing a further transformational event in the evolution of the Internet: a shift of traditional software applications towards a service-based implementation, or what is sometimes called the “transformation of software into services.” And this is the critical event that now solves the free software revenue puzzle. This development unites the generative power of the free software domain with the proven revenue models of the services domain. The transformation of software into services *allows the powerful generative model of free software to be invested directly into the powerful revenue model of the Internet Services industry*.

1.3 Free and proprietary software: cultural incompatibility

But how is free software to fit into the proprietary Internet Services domain? The answer is: not very well. As we have noted, a proprietary service provider can make use of free software components. But by doing so the service provider is taking only limited advantage of free software. To take full advantage of the energy and productivity of free software, the service provider must do more than this—it must adopt the free software development model itself.

But a service provider cannot adopt the free software development model, while remaining a proprietary service. The free and proprietary software cultures are fundamentally incompatible, and a company cannot commit to both value systems at the same time. Within the free software culture, software is considered a communal public resource. Within the proprietary culture, the basic software proposition is *this-is-mine-and-you-can’t-have-it*. The conflicts and contradictions between these two value systems are too many and too pervasive for them to coexist within the same organization.

A successful company requires clarity of vision and unity of purpose, and must therefore define itself. So in the matter of software patents, copyright and trade secrecy, the company must take a coherent position. Either these intellectual property constructs are part of its business model, and its corporate mentality, or they are not. With a foot in both camps, the company is fundamentally conflicted.

A proprietary service provider is thus greatly limited in its ability to fully participate in and benefit from the generative power of free software. What is required instead is a new model for Internet services, one that is fully aligned and consistent with the free software development model. We call this the Libre Services model.

1.4 The Libre Services model

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 or organization 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.

Thus the Libre Services model, like the free software model, allows *unrestricted reuse of assets at zero* *cost*. In the case of Libre Services the assets in question are services constructs rather than software constructs, but the end result is the same: Libre Services reproduce the powerful generative and propagative forces of free software within the Internet Services arena.

Like free software, Libre Services are a genuine public resource, not owned by anyone, freely available for reuse by anyone. They are created by society, for society. This means that the services are inherently aligned with the interests of the user. Under the proprietary model there is an inescapable dichotomy of interest: that of the user on the one hand, and that of the proprietary service provider on the other. But under the Libre Services model, this dichotomy is dissolved. And by virtue of being free and open, Libre Services guarantee a set of critical civil liberties that are not guaranteed under the proprietary services model—indeed, that are routinely violated under that model.

To the business mentality it may seem quaint, even comical, to advance such ethical considerations within the context of a business plan. But these critical characteristics of Libre Services represent a profound motivation for acceptance and usage of the services by society. It will take some time for this motivation to become apparent, but it is there, and its effects are real.

1.5 The By* model

The Libre Services model is one radically different dimension of our services model. There is a second dimension, also radically different, and also having major consequences. This relates to the capabilities of Internet services in purely functional terms. Whether proprietary or Libre, what can the services actually do, and how well can they do it?

There is no question that Internet Services represent a phenomenally dynamic, thriving industry, bringing revolutionary new computing and communications capabilities to the world, and accompanied by equally phenomenal business opportunities. This much is obvious.

But the Internet Services industry of today is also a gigantic mess. It has arisen in a completely unplanned, disorganized, chaotic manner, lacking any sort of uniformity or consistency of structure, and in many ways it is wildly dysfunctional. This is not so obvious. But as software and Internet engineers, having been actively involved in the technical Internet from the beginning, we know this to be the case.

And while this may not be apparent to the everyday user, having never experienced anything different, this limits the capabilities of Internet services in many ways. The Internet Services industry of today, dynamic and thriving though it may be, is in a sense crippled. It 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 By* (pronounced "by-star") model solves this problem. By* is a unified services model, unifying and making consistent a large number of services that currently exist in functional isolation. For example there is Yahoo. And there is Craigslist. And there is MySpace. But there is no connectivity or integration among these, though such joint interoperability would greatly augment the capabilities of all these services. As with technology in general, proper integration creates a new construct, bigger and better than the sum of its parts.

Today, a user's Internet experience is scattered across numerous disparate services. In particular, a user's personal presence on the Internet—her individual data and self-representation—is fragmented and duplicated among a multiplicity of service providers. Today she has many usernames and many passwords. Under the By* model, she will have only one.

By* is a coherent, integrated family of services, providing the user with a comprehensive, all-encompassing Internet experience. It includes services for individuals (ByName, ByNumber, ByAlias, ByMemory), services for business entitities (BySMB/ForSMB), services relating to physical locations (ByWhere) and events (ByEvent), and services for publication of information (ByTopic). Last and most important, By* includes a set of services allowing complex interactions among persons, businesses, and things (ByInteraction).

In terms of end-user functionality the services will eventually provide a large superset of the computing and communications capabilities that exist today. Meanwhile the services are evolving and will continue to evolve towards this goal. Up-to-date details about the current and planned capabilities of each service are provided on the service websites themselves. A complete list of all service websites and their supporting documentation is provided in Section 1.14, "Summary of references and pointers."

By* is the model for a new generation of Internet services, far bigger and far better than the uncoordinated mishmash of services that exist today. By* is the Internet services industry, done right.

1.6 Our strategic vision

As shown in Figure 1, the By* services embody a set of attributes that exist nowhere else in the Internet services industry. By virtue of being Libre Services, they are a proper vessel for receiving the creative productivity of the free software development model. And also by virtue of being Libre Services, they reproduce that same creative productivity within the services domain. By virtue of being Internet services, they inherit the gigantic revenue engines of the proprietary Internet services domain. And by virtue of being a unified services model, they far surpass the capabilities of the existing, functionally fragmented industry.

All this gives the By* model enormous potential. By* can become the new model for delivery of Internet services, at the scale of the entire planet. Our ambition is to lead By* forward to the full realization of this potential.

To many, this ambition will appear implausible and unrealistic. But it is based on the tremendous generative power of the free/Libre model. Though few understand this, a watershed event is currently taking place within the software industry: the proprietary software model is being overtaken by the free software model. The battles will continue for years to come, but the war is already lost: the proprietary model is marked for extinction, and the future is free software. As engineers, as software experts at the forefront of our industry, we have recognized this well ahead of the industry at large—and certainly far in advance of the business community. Though the demise of the propriety software industry may seem implausible today, this is already as much a reality as global warming.

Without a clear understanding of this reality, none of what we are saying makes sense. With this understanding, all of it does. We are a small group of engineers who fully understand the power of the free/Libre model. What will make all of this work is the extraordinary generative power of Libre, and our ability as engineers to shape and direct this power to extraordinary effect.

1.6.1 Not a tear-down and rebuild model

It must be emphasized that what is being presented here is not a tear-down and rebuild operation.

The Libre Services and By* models are revolutionary, and can be expected to have a revolutionary effect on Internet usage. But these models are about service development and functionality, not about technological infrastructure. We are not reinventing the Internet protocols, or any other technical aspect of Internet operation.

Libre Services and By* imply no discontinuity, in terms of either technology or service deployment. The implementation model for Libre Services and By* is wholly evolutionary—there exists a continuous migration path from the proprietary model of today to the Libre model of tomorrow.

1.7 This is all real

So far, everything we have said has been theoretical. Let us now turn to the practicalities of the matter. By now it will be clear to the reader that what we are proposing is rather colossally gigantic. But we have been actively working on this initiative since 2001, and our implementation is now well advanced. In terms of what we have built, this written Business Plan is just the tip of the iceberg.

Far from being empty theory, all this has substantive reality. Libre Services and By* are not just an abstract concept or a distant mirage. They are real constructs that we have built and are delivering to our clients today.

- **A real conceptual foundation**. We have fully defined and documented the Libre Services concept. We have also enabled this model by establishing a formal framework for industrywide participation in Libre Services development. This component of our work has been done under the auspices of the Free Protocols Foundation, a non-profit organization separate and distinct from Neda. Complete details are provided in Section 5.2, "Libre Services participation."

- **Real services**. We have implemented the initial components of By* and established a starting point set of services. The various By* services and websites are summarized in Table 2. The services are in varying stages of development—some in operation, others under active development, and others at concept level only. But the initial services are in place, and the rest will follow. The current status of all By* services is summarized in Table 5.

- **Real clients**. By* services are currently in use by a number of our individual and business clients. The scale of usage is small, but nevertheless these are real, supported, working services. Examples of existing individual and BySMB users are provided in Table 3.

- **Real assets**. We have been actively working on this initiative since 2001, and we have created a complete conceptual blueprint and a coherent set of assets to turn our ambitions into reality. A description of the relevant assets and their current status is provided in Section 8, "Status and Assets."

  We host the By* services at our own Data Center, and this is therefore a particularly important asset. The Data Center is complete and operational in all respects, and capable of supporting all By* services up to medium operational scale.

- **Real revenues**. There are multiple revenue sources associated with the By* deployment. In addition to the subscription fee and advertising models already mentioned, Libre Services and By* create a number of additional revenue sources not present under the proprietary services model. All revenue sources are described in Section 6, "Revenue Models," and summarized in Table 4.

- **A real company**. Neda Communications, Inc. is a well-established company with a proven track record of technical proficiency and profitability. Neda was founded in 1991, and between 1991 and 1997 operated as a successful data communications consulting company, with average revenues from 1993 to 1997 of over $1 million annually.

  Since 1997 Neda has exercised active leadership in an evolving series of industry initiatives, leading up to the present By* initiative. Over the past several years our vision and focus has been the creation of the assets required to execute this Business Plan. To date Neda has received no external financing. Details are provided in Section 12, "The Company."

- **A real team**. Neda has a core team of engineering and management personnel with extensive experience in the technical Internet and data communications fields. Among the team there are relationships going back many years, reflecting a long history of productive cooperation. In particular the following key team members have worked together closely and committedly on this initiative since 2001:

  Mohsen Banan. Mr. Banan is the founder of Neda Communications and the team leader. He is the intellectual originator and visionary behind the Libre Services and By* concepts. His professional biography is available at his public ByName site at:
  http://mohsen.banan.1.byname.net/ProfessionalBio

  Andrew Hammoude. Dr. Hammoude represents the written word of Neda Communications. All mission-critical exposition of the Libre Services and By* concepts has been created by him. He has been with Neda since 1999. His professional biography is available at his public ByName site at:
  http://andrew.hammoude.1.byname.net/ProfessionalBio

  Pinneke Tjandana. Ms. Tjandana has built a large part of the operational and developmental components of the By* services. She has been with Neda since 1998. Her professional biography is available at her public ByName site at:
  http://pinneke.tjandana.1.byname.net/ProfessionalBio

  Information about other Neda team members is available at:
  http://www.neda.com/AboutNeda/CompanyProfile

It's all real, and every day it gets realer.

1.8 Key execution strategies

We have formulated a coherent execution plan for deploying the By* services, developing the various revenue streams, and moving this initiative forward over time. Complete details are provided in Section 7, "Execution." In the following sections we describe some of the key elements of our execution strategy.

1.8.1 Marketing strategy: Engineering vs. Business polarization

We are facing a major service uptake challenge. First, we are in a very crowded and noisy arena. The general Internet services domain includes many established services, plus a constant stream of new commercial initiatives, all competing for user attention. The domain of social networking services is a particularly intense focus of competitive activity at present, and By* asserts its own emphatic presence in this domain also.

Furthermore, we are latecomers in an increasing returns business. Many existing service providers already have a large and growing base of users, with whom they have an already established relationship.

A big part of our service uptake challenge is met by the inherent growth dynamics of the Libre and By* models themselves. These are discussed at length in the document titled, *The By* Concept: A Unified Model for Internet Services* [**?**].

But in addition to this, a strong marketing message is required to differentiate By* from other services, and pull subscribers away from existing providers. We have a coherent and powerful set of marketing messages to address this requirement. These are:

- The By* services, by virtue of being Libre Services, are inherently on the side of the user. No proprietary service can make this assertion, and this provides us with immediate differentiation from all existing Internet services.
- By* provides a total, integrated Internet services solution, delivering everything needed by the user. This is in contrast to the existing patchwork of functionally fragmented services, each delivering only a component of what is needed.
- The metaphor of a war between Engineering and Business.

In our first marketing message we position By* as inherently aligned with the interests of the user, in contrast to proprietary services which are ultimately aligned with the interests of the provider. But we will go much further than this. We will broaden this message into something much bigger: we will actively promote a *militant polarization of Libre as an Engineering construct, versus proprietary as a Business construct*.

Today, the Internet services industry is owned entirely by business interests. But the Libre Services and By* initiatives represent a startling challenge to this: they represent a determined reassertion of proper guardianship of the Internet by Engineering. This challenge will bring us into massive conflict with existing commercial interests, who will fight ferociously to defend the status quo.

Table 1 shows the many elements of contrast between the Engineering and Business value systems. As the table makes clear, these two values systems are in complete and total conflict. We will fully exploit this conflict as the metaphor of a war: a war between Engineering and Business, in which Business represents exploitation of the Internet for profit, and Engineering represents guardianship of the Internet on behalf of the public.

We are thus taking an assertively militant, combative position. We have had previous experience in generating attention by this means. In 2000 we wrote and widely distributed a document titled, *The WAP Trap* [**?**]. This was a public exposé of WAP, a shoddy and exploitative business construct. *The WAP Trap* successfully created interest and press coverage; for details see http://www.neda.com/AboutNeda/News/WrittenAboutUs. Our highly assertive By* marketing messages will create publicity and press coverage in much the same way, though we expect on a much larger scale.

Our marketing messages are new, powerful, unique, and cannot be asserted by any other service provider. Together with the inherent growth dynamics of the By* services themselves, these marketing statements

Engineering Values	**Business Values**
Patent-free	Patented
Copyleft	Copyright
Transparency	Secrecy
Public ownership	Private ownership
Sharing, collaboration	*this-is-mine-and-you-can't-have-it*
Guardianship	Exploitation
Libre Services	***Proprietary Services***

Table 1: Engineering vs. Business Polarization

can create broad cultural acceptance of the Libre model, and can pull users away from the existing proprietary providers.

1.8.2 Marketing jujitsu: business based on non-business

Marketing is about perception, not reality. But it is worth noting that our marketing messages are, in fact, wholly congruent with the underlying reality. The central element of our message, that the By* Libre Services are inherently on the side of the user, is perfectly true. It is true because they are a purely engineering construct, created solely in the public interest, and not beholden to any private commercial interest. When the message is congruent with the reality, the result is a tremendously powerful marketing imperative.

Today, the public is generally oblivious to the perils of the proprietary services model, and cheerfully entrusts its personal data, its privacy, its freedoms and its civil liberties to proprietary business interests. But this will change. And as it does, as general public awareness grows, our marketing messages will resonate ever more strongly with the public, the media, and our fellow engineers.

The By* services are unique in that they are a business model based on the Libre model, which in turn is an engineering construct residing entirely in the public domain. We are thus using the inherently non-business nature of the By* services as a critical element of our business strategy. This is the unique marketing jujitsu made possible by the Libre model.

1.8.3 Marketing synergy: Libre Services leadership

The full scope of this initiative includes two distinct dimensions: the public side, represented by the general Libre Services concept, and the commercial side, represented by the Neda By* services and this business plan.

We have described above our By* services marketing strategy, centered around By* as a commercial offering by Neda. But in addition to this we are the visionaries and leaders of the broader Libre Services movement, and this provides us with a further unique promotional vehicle.

Libre Services are new and interesting. They are altogether unlike the existing proprietary model. They are a genuine communal resource, created by Engineering as a gift to society, inherently aligned with the interests of the users, and providing guaranteed guardianship of personal freedoms and civil liberties. This is new and different. It is interesting, puzzling, and thought-provoking. Above all, it is newsworthy. Our leadership role in the Libre Services movement will bring us a unique level of visibility and name recognition.

Our leadership of the Libre Services movement and our marketing of the By* services are strongly synergistic: attention directed towards one naturally brings attention to the other. We will therefore conduct a strategic coordination of these two activities: we will assert our leadership of the Libre Services movement in close coordination with the initiation of our By* marketing campaign. In this way we will greatly amplify the effectiveness of both.

Furthermore, both of these activities create the opportunity for revenue growth by Neda. We will therefore coordinate the above two activities with a third: the public exposure of the By* services as a revenue-generating engine.

We will execute all three activities at precisely the correct moment: the moment at which we are able to deploy and support the By* services at scale. This triply coordinated execution—of Libre leadership, of By* marketing, and of By* services exposure—will bring unique visibility to Neda. By choosing this moment correctly, we will turn that visibility directly into revenues.

(*Nota bene*. Throughout this Business Plan we are focussed on the success of the By* services as a commercial initiative, and in this section we have described how our promotion of the Libre Services movement contributes to this success. But it must be emphasized that this does not imply any marginalization of the Libre Services movement, or the subordination of the goals of the Free Protocols Foundation to those of Neda.

This initiative includes two major dimensions, and each is an essential requirement for the other. Just as the Libre Services movement provides the essential context for By*, so the existence of a coherent business model is essential for widespread deployment of Libre Services. These two dimensions are closely interdependent, and success of one contributes directly to the success of the other.)

1.8.4 Engineering development model

As we have noted, the free software movement is a flourishing creative environment, constantly producing new and better functional software components. Indeed for any particular 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 matter of selection and integration of already available software packages. Virtually all existing By* service functionality has been created this way—in building By* we have written almost no new software at all.

Thus we are not so much in the business of software development, as we are in the business of software integration. But the integration of software components to produce a coherent service is far from trivial. We have created a sophisticated technical integration environment for this purpose, called the **Neda Libre Services Integration Platform** (Neda-LSIP). Neda-LSIP is a comprehensive set of tools and conventions for the transformation of software into services. Neda-LSIP is the key technological component of our realization of the concept of Libre Services, allowing practical and cost-effective aggregation of free software components into coherent services. Neda-LSIP is free software itself, available under the Affero

GPL version 3 license. For complete details see the document titled, *Neda-LSIP Design and Implementation Notes* [**?**].

Moving forward, we will continue to select and incorporate additional functional components into By* as these materialize within the free software environment. This is the extraordinary magic of free software: the ability to take things and reuse them at extremely low cost. This is the fundamental growth dynamic of Libre Services, and the powerful generative force that is lacking in the proprietary model. This is the key dynamic that causes the By* Libre Services eventually to surpass the proprietary model entirely in terms of features and functionality.

1.8.5 Engineering design for scale

By* is designed to be big. Big in every respect: in terms of functional scope, in terms of depth of integration, and in terms of numerical scale. Our goal is to establish By* as the new model for delivery of Internet Application Services for all individuals, and all businesses, everywhere. The intended scale for By* is the entire population of planet Earth.

Every aspect of our model and execution strategy is directed towards achieving this numerical scale. In particular, all our engineering design decisions have been made with scalability as a critical requirement. For example:

- Overall design of the By* services is based on a highly distributed architecture, with no inherent number limits. The services are unlimitedly expandable in terms of hardware infrastructure.
- An important design decision is the selection of the right free software components for integration into By*. All software components have been chosen with scalability as a key requirement.
- A consistent naming scheme is essential in order to create object instantiations at extremely large scales. The By* architecture incorporates a hierarchical naming model, based on consistent and extensive use of the Internet domain naming system. This allows the naming and addressing of unlimited name spaces within the By* structure.
- We built our own in-house Data Center right from the beginning, giving us the ability to scale up without requiring an initial colocation phase. With our own Data Center we can scale up operations efficiently and economically, under a wide range of operational contingencies. The Data Center can support deployment of By* up to medium operational scale.

1.8.6 Focus on model, scope and scale

This is a model play. This is not about a new product or service, as these are commonly defined and bounded. This is about an entirely new paradigm for Internet service deployment and usage.

Thus what we are building here is *inherent model potential*. We are not building limited service functionality for a limited scale of delivery. Rather we are building gigantic potential: for the creation of vast scope of functionality, and global scale of delivery.

Throughout our execution strategy we maintain proper focus on this goal. In particular our major effort has been devoted initially to defining the Libre model, designing the By* architecture, and building the machinery necessary for large scale execution. With these critical enabling components in place, only then do we attempt to deploy By* as a large-scale service.

Certainly, we could have invested our initial effort in building and deploying By* as robust services, and creating an initial user base. But this would amount to a traditional service play, not a model play. This would leave us with a service in place, but without the powerful generative model characteristics that give By* its planet-wide potential, without our unique leadership role, and without our model-based marketing messages.

1.8.7 Growth of user base: timing

An important consideration is the point at which we begin to accept the burden of significant numbers of users. In the case of a conventional service deployment there is typically a major emphasis placed on early and rapid growth of user base, to demonstrate demand and marketplace viability of the service, and lay claim to a particular portion of functional territory.

However we are not following this standard early proof-of-service approach. This may be appropriate for a conventional new service, where service functionality is the central and most critical issue. But for our industry model play, a different timing strategy is required.

First, as a superset of numerous existing services, proof of service for By* in functional terms is already demonstrated by the Internet Services industry as it exists today. It is far more important to prove the model itself rather than its functional manifestations, and hasty creation of user base does little to accomplish this.

Instead we have provided a coherent and complete description of the model in this and our other documents. The theoretical basis for the model is solid, and this will be clear to anyone willing to invest the time to understand it. In addition a number of working By* implementations are already in place; examples are provided in Table 3. Though the scale of usage remains small, these are sufficient to demonstrate the viability of the Libre model and the By* design, and the value of the resulting services to paying clients.

But a far more important consideration is that installed base is very costly in terms of maintenance and support, and premature exposure to these costs can jeopardize the more critical work of building the underlying model machinery. Therefore we will not take on the burden of user base until the time and/or context is right for this. This means either that we are fully ready to accept the associated costs of ownership, or that the user base is being taken on in an appropriate context, such as a suitable business partnership.

Under either scenario our strategy is the same: at the right time we will populate the services at large scale by mass creation of By* service accounts for large existing user bases. Our strategy for accomplishing this is described in a separate document titled, *The By* Family of Libre Services for Network Service Providers: A strategy for rapid entry into the Internet Application Services market* [**?**]. This document describes how a Layer 3 service provider can become a Layer 7 service provider virtually overnight based on the By* Libre Service model, and can begin delivering Layer 7 services directly to its entire Layer 3 user base.

1.8.8 Collaborative binding: an open vertical keiretsu

The Libre model creates an entirely new business environment in terms of competition, collaboration, and value chain relationships.

In the proprietary model, businesses can and do enter into technical collaboration and strategic partnership. But within such partnerships, the partnering companies remain intensely focussed on intellectual property ownership considerations. Even before any serious discussion can take place, the prospective partners implement restrictive Non-Disclosure Agreements (NDAs) to protect each other's trade secrets. And when the partnering companies are eventually able to agree on the nature and scope of a collaborative project, technical development takes place in the context of closely negotiated agreements about who owns what, and how patents, copyrights and royalties are to be divided among the companies.

Thus proprietary technical collaboration, like porcupines mating, includes a strongly anti-collaborative component.

The Libre Services model, however, represents a complete renunciation of the existing intellectual property regime. (Indeed, we consider the very term "intellectual property" to be problematic, implying as it does an extension of the logic of physical property ownership into the non-physical realm of software and ideas.) Under the Libre model, software and services are a public resource, owned by no one. Patents and copyright are rejected entirely. With these (so-called) intellectual property constructs out of the way, there are no obstacles to collaborative services development and integration. The Libre model is thus inherently collaborative in nature.

Yet within the Libre environment, other perennial business considerations remain in full force. Competition and strategic maneuvering remain alive and well, but these take place at points of contact outside the technical development arena. Fundamental business questions remain, such as: What are the natural business alliances? How is risk to be shared among such alliances? How are revenues and profits to be divided?

The Libre business environment is new, and in time it will establish its own conventions to negotiate and settle these questions. The details of how this will occur is not our concern or responsibility. However it is our responsibility to define and maintain our own strategic positioning within this environment.

By* Libre Services creates a new, extremely large and complex value chain. Our key strategic positioning within this chain is as the top-level services aggregator, having a direct relationship with the end user. This positioning presents Neda with unique opportunities and responsibilities. Our unique opportunity is to profit from this position. Our responsibility is to promote and enlarge the value chain, while maintaining our positioning in the face of strategic actions by both competing and collaborating companies.

The elimination of proprietary competitive tensions from the technical development arena, together with the shared anti-IP mindset of collaborating companies, creates a new form of binding among value chain partners—what we call an open vertical keiretsu. We invite others to join us in expanding and profiting from By*. If you have a Libre component that fits well and that you wish to integrate into By*, or if you are interested in a longer-term business relationship for development of a particular branch of By*, please contact us. We have ample Neda equity available to promote early-stage business partnerships.

1.8.9 Competitive advantages

The Libre Services industry presents an entirely new competitive environment. For any provider deploying a Libre Service, it is no longer possible to maintain sustainable advantage on the basis of proprietary service ownership. Nor is it possible to create advantage on the basis of functional service differentiation from other providers.

A complete discussion of our competitive advantages within this environment is provided in Section 10, "Competitive Advantages." But there are two in particular that provide us with unique advantages over any potential competitor:

- We are the originators and architects of Libre Services and By*, and we are playing a unique leadership role in their industry-wide promotion and deployment. There can be only be one leader, and we are it.
- By* is a total services solution, vast in scope, highly scalable, designed for the long-term, big picture future of the Internet. This immense scope is reflected in the By* design architecture. The design is sophisticated and complex, allowing highly generalized interactions among the many By* components.

  This represents vision, depth of understanding, and a far-reaching intellectual investment. This cannot be easily replicated or understood by others. Yet we have a clear understanding of By* in every detail. This depth of understanding will guide our deployment and strategic maneuvering for years to come. This amounts to a major conceptual lead time over any potential competitor.

1.9 The Spearhead: By* Libre Texting

The scope of By* Libre Services is so vast that it is hard to believe.

We therefore need an initial point of focus to demonstrate the true reality and power of By* Libre Services. A clear value proposition and a real, concrete problem domain are required for this. We have chosen the domain of Mobile Messaging as the tactical spearhead for By* Libre Services. We call this **By* Libre Texting**.

By* Libre Texting is in a sense the merging of By* with our 2001 Business Plan [**?**] and Operation Whiteberry [**?**]. By adding to By* all the assets that we had previously developed in the Mobile Messaging arena (RFC-2524 [**?**], RFC-2188 [**?**], EMSD.org, ESRO.org, the LEAP Software, *The LEAP Manifesto*), we now have a powerful and complete set of assets.

In contrast to Operation Whiteberry, which required the mobile phone companies to relinquish their walled garden model, By* Libre Texting is fully self-contained and complete, requiring no proprietary external assets.

We have documented and are promoting this initiative in the form of a comprehensive presentation titled, *By* Libre Texting: A Reshaping of the Medium* [**?**]. The evolution of the original Operation Whiteberry into today's By* Libre Texting has taken about 10 years, as various components of the industry have gradually caught up with our long-term vision of Libre Mobile Messaging. In particular, the following three components were absent in 2001:

- Open Linux PDAs (e.g. Linux Nokia 810).
- Widespread availability of WiFi, for final-leg connectivity.
- Public/unlicensed spectrum (e.g. MURS), for wide-area connectivity.

But with these elements today in place, a complete Libre texting solution is now fully viable.

To provide a complete end-to-end texting alternative to SMS and BlackBerry, we use the Nokia 810 Linux PDA as our device hardware platform. The device protocol software is the native Linux EMSD-UA package. On the services side, EMSD-SA is a standard part of By*.

Details of our execution plan for By* Libre Texting are available in presentation format in *By* Libre Texting: A Reshaping of the Medium* [**?**]. A large part of the content of our 2001 Business Plan [**?**] also continues to apply to By* Libre Texting.

Figure 2 shows the technological context for By* Libre Texting. This figure shows the various conceptual and software layers that By* Libre Texting is built on. As the figure shows, the By* Libre Texting (mobile messaging) capability resides at the very top, representing a vertical slice of the highly generalized By* capabilities. This well-defined vertical application provides precisely the concrete value proposition required for initial market penetration by By*.

Each of the layers shown in Figure 2 represents either a conceptual definition, or an actual software/service implementation. On the business side, the value chain model has an analogous layering structure. As discussed in Section 1.8.8, “Collaborative binding: an open vertical keiretsu” our strategy of maintaining our position at the very top of the value chain is supported by our assets throughout all layers.

1.10 Where we are today

In broad summary this is where we are today:

- Articulation of the Libre Services conceptual model is complete and fully documented.
- We have built the assets and infrastructure necessary for widespread exposure of any part of this initiative. This includes a comprehensive website presence, and a sophisticated e-mail capability for highly efficient marketing and communications operations. See Section 1.14, “Summary of references and pointers,” for a summary of our very extensive website assets.
- Overarching design architecture for the By* services is complete. It is also implemented sufficiently for someone with the necessary technical skills to understand the integrity and philosophy of design, and the architectural characteristics in terms of functional scope, depth of integration, and numerical scalability.
- Implementation of the By* services themselves is in progress. In terms of functionality, the initial services are already sufficiently complete for deployment and usage. A number of example implementations are in place; these are summarized in Table 3.

  In addition, the By* Factories—the software machinery required for fully automated creation of new service instantiations—are also complete and in place. We thus have the ability to create unlimited numbers of new accounts in batch mode, or at any time we can “enable” the services, to permit self-service account creation by individual and business users.

  However the services are not ready in terms of security, operational manageability, and scalability. Substantial work remains before we can support large numbers of users reliably and efficiently. This is the last remaining phase of work to be accomplished before we can deploy the services at large scale.

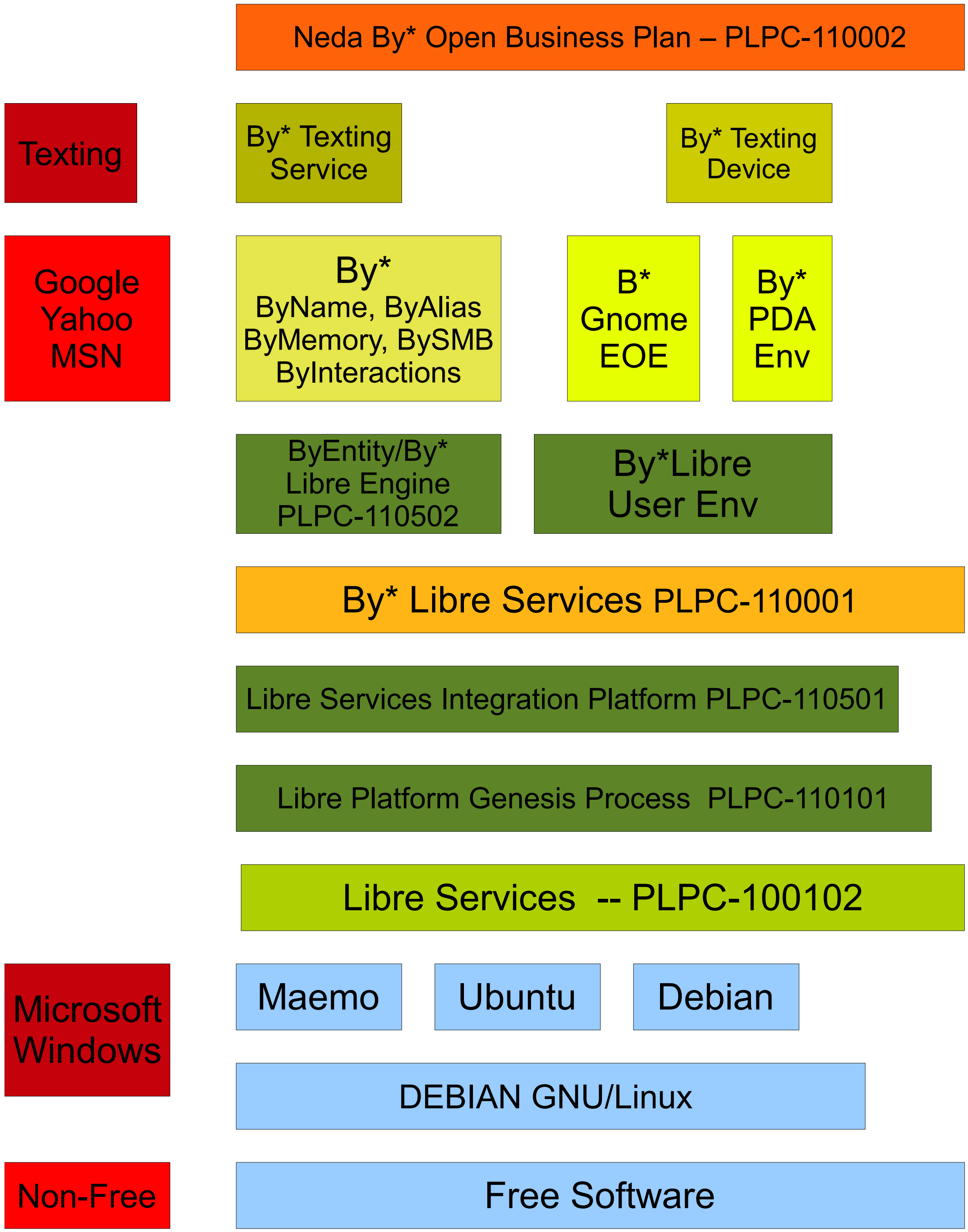

Figure 2: By* Libre Texting Layers

1.10.1 An immense construct

Over the past several years we have built something quite extraordinary. We have built a sophisticated machine, that when set into motion, can redefine the entire global Internet.

And we have done all this based entirely on our own determination, hard work, and committment. Everything we have built thus far has been driven by our own efforts, without external funding, financed entirely by our revenues as a consulting company. We are a small team, and we have foregone company revenues and personal income over an extended period. Yet despite these sacrifices we have stayed together and continued to work committedly on this since 2001.

The results, we believe, speak for themselves. This business plan is the topmost element of an immense construct. Section 1.14, "Summary of references and pointers," provides a roadmap to the many interlocking elements of this construct. We invite the reader to take a look, and see for yourself.

1.11 Moving forward

Moving forward from this point we will execute the following items:

- We will complete the final leg of technical work required to support large numbers of users.
- At the right moment we will initiate a coordinated exposure campaign. We will make widespread exposure of the general Libre Services model and claim our leadership role; we will initiate our highly assertive By* marketing campaign; and we will make public exposure of the By* services themselves.
- We will continue to seek consulting projects and Internet services clients that are well aligned with our strategic objectives.
- We will seek out business partners with whom our strategic direction has strong resonance. An important component of this is our strategy for seeking out By* service deployment partners; this is described in a separate document titled, *The By* Family of Libre Services for Network Service Providers: A strategy for rapid entry into the Internet Application Services market* [**?**].
- We will continue to augment the framework for participation described in Section 5, "Framework for Participation."
- We will continue to expand the services in terms of functionality, and we will continue to harden our deployment infrastructure in terms of security and operational manageability.
- Based on all the above, we will begin to scale up the services and develop a growing, recurring revenue stream.

Beyond the above near-term items, the large scope of this initiative permits great flexibility of execution. By* has great breadth and depth; it is the equivalent of multiple conventional business plans rolled into one. And as we discuss in Section 6, "Revenue Models," it includes many opportunities and revenue streams. This multiplicity of opportunity allows our execution to be readily adapted to changing circumstances. Our overall execution plan is therefore highly reactive and responsive to events as they unfold.

In terms of By* service functionality, at this point we have established a stable functioning system, which will form the basis for ongoing engineering development. Moving forward from here we will execute an incremental implementation strategy, continuously adding new functionality and expanding the scope of this stable system.

Scaling up of the services will be contingent upon the availability of appropriate resources. The By* Factories are ready, but we will not exercise these at large scale until we are ready to accept the associated maintenance and support demands. In the meantime we will continue to populate and expand our Data Center usage at a small-scale, controlled rate.

Our general exposure campaign will likewise be contingent on circumstances. The assertion of our leadership role and other exposure activities are a matter of degree, and can be executed to greater or lesser extent. We will execute exposure in proportion to our ability to scale up the services and convert that exposure into revenues.

Other aspects of our execution plan are similarly reactive. In terms of external financing, the plan is fully adaptable to the availability of financing, addressing the full range of possible financing contingency. In particular we have a coherent execution plan for a wholly self-financed mode of operation; details are provided in Section 7.4, "Adaptability to financing."

1.12 The need for broad participation

Based on our own efforts, we fully expect that we will complete the final phase of technical work, and we will reach the critical threshold at which the By* services begin to generate a growing, recurring revenue stream.

But there is what we can do on our own, and there is what we cannot do.

Neda now stands at an absolutely critical point in its development. Over the past several years we have built an extraordinary revenue-generating machine. But despite its phenomenal potential, this machine cannot generate any meaningful revenue until it is complete, and until it is exposed. We are now moving towards a crucial moment: the moment at which this machine begins to turn.

On our own we can and we will reach this critical threshold. But we cannot sweep up to and beyond this threshold swiftly and with certainty. We cannot exploit the many By* revenue opportunities intensively and in parallel. And we cannot deploy By* at the very large scale for which it is intended.

Though we have created a model with enormous potential, though we have a unique leadership role and unique marketing messages, our ability to convert this gigantic opportunity into revenues is desperately limited. On our own we are limited to a small-scale, incremental mode of execution. In this mode we cannot execute rapidly, intensively, and at large scale. We are simply too small, and we do not have the resources.

A small team is ideal for conceptual analysis, model articulation, and architectural design. All this we have accomplished. But now we need to bring in others. With what we now have in place, we are now ready and the time is right for us to move forward to planet-wide scale. And for this we need people, we need business partners, and we need investment.

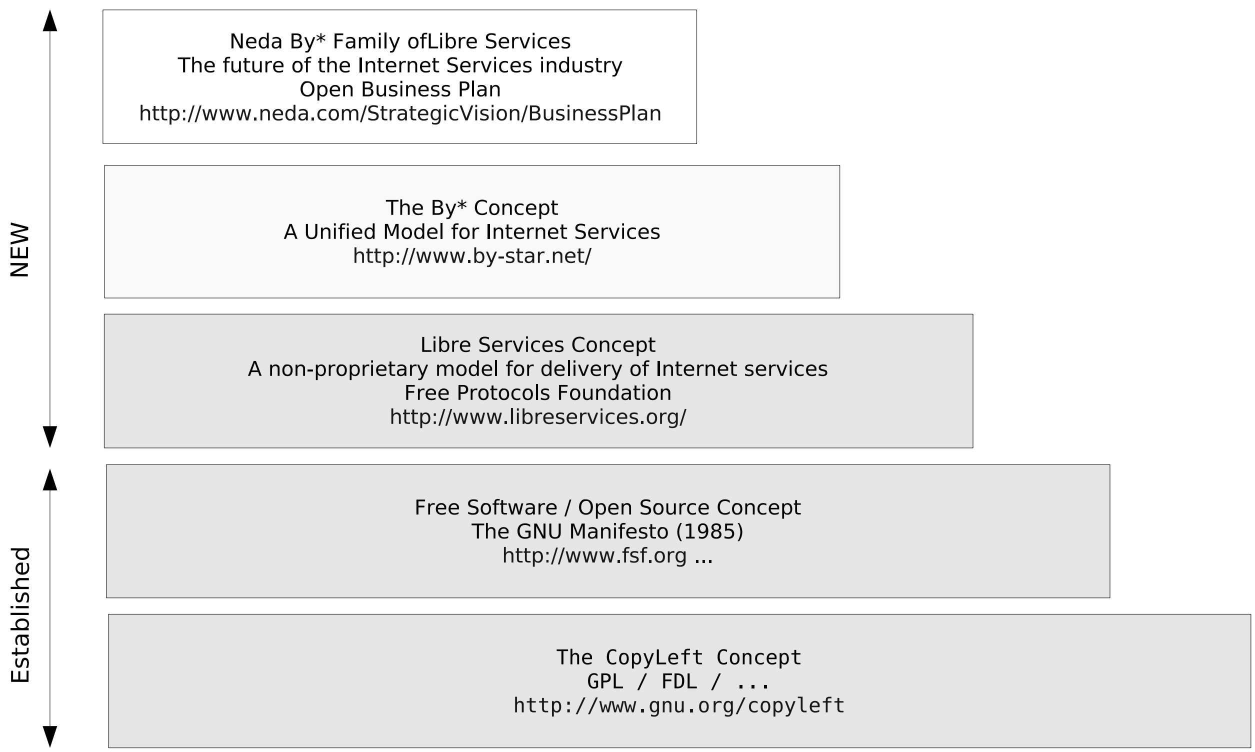

Figure 3: Conceptual Foundations

1.12.1 An invitation

This initiative is not about a conventional product or service. It is about the reinvention of the global Internet Services industry, on the basis of a radical new services model. It is about leadership, and capitalization on that leadership in business terms. It promises to be exciting, and rewarding, in the execution.

We have created a gigantic opportunity, and with the right participation we can turn this opportunity into gigantic revenues. And to enable such participation we have established a comprehensive framework for participation; details are provided in Section 5, “Framework for Participation.” In particular we have ample equity available to motivate participation by team members, partners and investors. In the case of investment participation, our financing model is described in Section 13, “Financing.”

If you are interested in taking part in this venture, then please read on. And if not then please feel free to pass our Open Business Plan along to any other interested person.

1.13 Conceptual foundations

This business plan is built on top of, and requires understanding of, a number of important underlying concepts. Figure 3 shows the full conceptual foundation for the plan.

Each component in the figure represents a conceptual layer, with each layer building on those beneath. The bottommost layer represents the concept of Copyleft, a key enabling principle for the new ideas of non-material capitalism in the digital era. In the context of the software industry, Copyleft is manifested in the form of the Free Software Movement, shown as the second layer in the stack. Thus free software can be viewed as a special case of the more general idea of Copyleft. The principles of Copyleft and Free Software are well established and understood throughout the industry at this time.

But the three topmost layers are entirely new. These represent the three major conceptual components of this initiative.

As we have discussed, Libre Services are an extension of the principles of free software into the services domain. The critical concepts and ideas of Libre Services are thus built on those of free software.

Libre Services is a development and deployment model, but it says nothing about service functionality. The By* layer, built on top of the Libre layer, provides a complete functional services definition. Thus By* is a specific manifestation of the more general Libre concept.

The Libre Services and By* models say nothing about the commercial viablity of any of this, and this brings us to the topmost conceptual layer: the Neda Open Business Plan, describing the deployment of By* in a business context.

Note that each layer in this stack has well-defined public versus private ownership characteristics. The three layers at the bottom—Copyleft, Free Software, and Libre Services—represent communal public resources. These are therefore maintained by non-profit organizations, without any commercial orientation or motivation. In the case of Libre Services the responsible body is the Free Protocols Foundation, which maintains and develops Libre Services as a public resource.

The By* conceptual layer includes both public and private elements. Since the By* services are Libre Services, the entire By* implementation software is a communal public resource, freely available for reuse by anyone. But the By* services themselves, in the form of operational services for end users, are deployed and delivered in a commercial context. Further discussion of the distinction between the technical service implementation software (what we call the Libre Service Engine) and an operationally supported service is provided in *Libre Services: A non-proprietary model for delivery of Internet Services* [**?**].

Finally, Neda is a private business entity, deploying and operating the By* Libre Services in a for-profit commercial context.

1.13.1 Complete documentation

Libre Services and By* are radical new concepts, requiring independent thought to appreciate and understand fully. The basic premise for what we are doing—a non-proprietary, non-ownership model—runs entirely counter to the prevailing business assumptions of the day.

And like any new idea that flies in the face of existing ideas, it takes time and thought to overcome the existing entrenched assumptions, and the limitations of human intellectuality. It takes time for older, arthritic minds to exit, and younger and more adaptable ones to take their place.

But though our services model may be different, it is based on well-founded analysis. And to facilitate understanding of our model by others, we have documented the underlying analysis fully in the form of a comprehensive set of documents called the *Neda Strategic Direction Statement* [**?**]. This set of documents provides a complete description of every aspect of this initiative. In particular, this set includes the following three key documents:

- *Libre Services: A non-proprietary model for delivery of Internet Services* [**?**].
- *The By* Concept: A Unified Model for Internet Services* [**?**].
- This Business Plan.

These three documents mirror the three topmost layers of Figure 3. Together, this triad of documents provides a complete, big-picture view of all the critical elements of this initiative.

1.13.2 An Open Business Plan

These documents are available for readership by anyone. In particular, in what we believe is a first in the history of business practice, we are publishing our business model in the form of an Open Business Plan, intended for widespread distribution, analysis and criticism.

This is highly unorthodox, but essential for the realization of our goals. The deployment of By* at its intended scale cannot be accomplished by Neda or any other company acting alone. Rather this can only succeed as a general industry-wide movement, involving buy-in and participation by many others. In particular this initiative requires the participation of three major consituences: the engineering community, to build the necessary Libre Services infrastructure; the business community, to deploy and deliver Libre Services to end-users; and the investment community, to finance engineering and business development. All these prospective participants need to understand the model in its entirety, including its business dimensions.

1.14 Summary of references and pointers

This Business Plan is the topmost element of a very large construct. Furthermore this is a highly dynamic initiative, and will continue to evolve over time. This presents a dual challenge to the reader: to understand this sophisticated construct as it exists today, and to track its progress in the future.

But everything we do is completely transparent, open to independent examination and verification by anyone. In this section we provide a complete set of references to the many documents, websites and services that make up this construct. Anyone can determine the exact status of any part of this construct by examining these references, now or at any future time. We invite any interested person to look through these materials and verify that we have indeed built what we say we have built.

This business plan is a snapshot at a particular point in time, providing a high-level overview of things as they exist today. But as things move forward it is the websites themselves that represent the definitive point of reference.

1.14.1 Libre Services

- *Libre Services: A non-proprietary model for delivery of Internet Services* [**?**]. Provides a complete description of the Libre Services model.

http://www.libreservices.org/libreManifesto

- *Libre Services: Projects for bootstrapping* [**?**]. Describes the project-based collaborative model and current Libre Services projects.
  http://www.libreservices.org/libreManifesto
- **The Libre Forum**. The central location and resource center for collaborative development of Libre Services.
  http://www.LibreServices.org
- **Free Protocols Foundation**. An independent public forum dedicated to the promotion and support of patent-free protocols, software, and services.
  http://www.FreeProtocols.org

1.14.2 By* concept

- *The By* Concept: A Unified Model for Internet Services* [**?**]. Provides a complete description of the By* model.
  http://www.by-star.org/docs/ByStarConcept
- **By-Star.net**. The central information site for By* services.
  http://www.by-star.net
- **BySource.org**. The distribution center for all By* software in source form.
  http://www.BySource.org
- **ByBinary.org**. The distribution center for all By* software in binary form.
  http://www.ByBinary.org

1.14.3 By* services

Individuals

- **ByName**. A complete set of Internet services for the individual user.
  http://www.ByName.net (fully supported)
  http://www.ByName.com (no-cost service)
  mohsen.1.banan.byname.net (example instance)
- **ByNumber**. Provides access to By* service functionality based on a numerical ID assigned to the user.
  http://www.ByNumber.net (fully supported)
  http://www.ByNumber.com (no-cost service)
  20000.ByNumber.net (example instance)
- **ByAlias**. Similar to ByName, but based on an alias instead of the user's real name.
  http://www.ByAlias.net (fully supported)
  http://www.ByAlias.com (no-cost service)
  nemesis.ByAlias.com (example instance)

- **ByFamily**. Services for individuals in a family context.
  http://www.ByFamily.net
- **ByMemory**. Services for preserving the memory of deceased persons.
  http://www.ByMemory.net (fully supported)
  http://www.ByMemory.com (no-cost service)
  yazdan.1.banan.ByMemory.net (example instance)

Small & Medium Businesses

- **BySMB/ForSMB**. Services for small-to-medium businesses.
  http://www.BySMB.com
  www.Neda.BySMB.com (example instance)
  www.Neda.com (example instance)

Social Networks

- **ByWhere**. Services relating to physical locations.
  http://www.ByWhere.net
  info.1-98008-5807-10.ByWhere.net (example instance)
- **ByEvent**. Services relating to events.
  http://www.ByEvent.com
- **ByTopic**. Services for publication of information organized by topic and words.
  http://www.ByTopic.net
- **ByLookup**. Services enabling word oriented searches.
  http://www.ByLookup.net
- **ByInteraction**. Services enabling transactions involving persons, businesses, places and things.
  http://www.ByInteraction.com
- **ByHookup**. Services enabling connections between Individuals.
  http://www.ByHookup.net

1.14.4 Neda Communications, Inc.

- **Neda: the company**. Comprehensive company information is available on our website at:
  http://www.neda.com
- **Neda: the team**. Biographical information for Neda team members is available at:
  http://www.neda.com/AboutNeda/CompanyProfile/
- *Neda Strategic Direction Statement* [**?**]. A comprehensive package of documents providing a complete description of every aspect of this initiative.
  http://www.neda.com/StrategicVision/ByStarLibreServicesStrategy

- *The By* Family of Libre Services for Network Service Providers: A strategy for rapid entry into the Internet Application Services market* [**?**]. Describes our strategy for rapid population of the By* services by mass creation of user accounts for large existing user bases.
  http://www.neda.com/PLPC/110005

- **Data Center**. We maintain our own Data Center to support the By* deployment.
  http://www.neda.com/InternetServices/OurDataCenter/
  http://www.LibreCenter.net

1.14.5 Investment model

- **Investment Philosophy**. A description of our investment philosophy is available at:
  http://www.neda.com/StrategicVision/Participating/

- **Open Investment Model**. A description of our Open Investment Model is available at:
  http://www.neda.com/StrategicVision/Participating/

- **Due diligence**. A set of resources to assist investors in conducting due diligence is available at:
  http://www.neda.com/StrategicVision/Participating/

1.14.6 Neda-developed Libre software

- *Neda Libre Services Integration Platform (Neda-LSIP) Design and Implementation Notes* [**?**]. Provides an overview and engineering description of the Neda Libre Services Integration Platform (Neda-LSIP).
  http://www.neda.com/PLPC/110501

- *ByEntity Libre Engine Design and Implementation Notes* [**?**]. Provides an overview and engineering description of the ByEntity Libre Service Engine—the technical service implementation software for the By* services.
  http://www.neda.com/PLPC/110502

1.14.7 WhiteBerry mobile messaging

- **WhiteBerry business plan**. The Q4 2001, WhiteBerry-centric Business Plan.
  http://www.neda.com/StrategicVision/BusinessPlan

- *Operation WhiteBerry: Creation of a Truly Open Mobile Messaging Solution* [**?**][**?**]. Provides a complete description of the WhiteBerry mobile messaging solution.
  http://www.mailmeanywhere.org/wbResource

- **MailMeAnywhere.org**. The WhiteBerry software distribution center.
  http://www.MailMeAnywhere.org

- **The Leap Forum**. The central information and resource center for the LEAP family of protocols.
  http://www.LeapForum.org

- **ESRO.org**. The maintenance organization and development forum for the ESRO protocol. http://www.ESRO.org
- **EMSD.org**. The maintenance organization and development forum for the EMSD protocol. http://www.EMSD.org

2 A New Model for Internet Services

The Internet has given rise to an enormous new industry: the **Internet Services** industry. This is an intensely dynamic industry, enabling many different types of interactions among people, businesses and information. The Internet is also giving rise to a further technological transformation: a shift of traditional software applications towards a service-based implementation, or what is sometimes called the "transformation of software into services."

But despite its phenomenal growth, the Internet Services industry of today has two characteristics that greatly limit its capabilities and potential. First, virtually all existing Internet Services are based on the traditional proprietary software model. The solution to this is the **Libre Services** model, a completely non-proprietary model for delivery of Internet Services.

Second, the evolution of the Internet Services industry has taken place in a highly disorganized, unstructured way, driven by a multitude of commercial ventures and initiatives. The various industry capabilities have been created in an *ad hoc* manner, based on immediate business expedience, rather than by any sort of overarching engineering design. The result, not surprisingly, is chaos.

The solution to this is the **By* family of Libre Services**. By* (pronounced "by-star") is a coherent, scalable, generalized Internet Services model.

Together, the Libre Services and By* models have enormous implications. These two models can transform the Internet completely, from the proprietary and *ad hoc* model of today, into something vastly more powerful.

We are the architects of both the Libre Services and By* models, and we intend to play a leadership role in this transformation.

2.1 Libre Services

Within the general software arena, the free software movement is well established as a viable alternative to proprietary software. But as yet, the free software movement has no formal presence within the services domain. The Internet Services industry of today exists almost entirely in the form of the traditional proprietary software model.

We have established a radically new, completely non-proprietary model for the delivery of Internet services. We call this the **Libre Services** model.

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 or organization 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.

This is a radical departure from the existing commercial model, with benefits that are equally radical and far-reaching. The Libre Services model provides a set of critical *freedoms* that are absent from the proprietary model. These freedoms have major engineering, societal and business consequences.

In the business arena the Libre Services model allows free entry into the Internet Services market, without any intellectual property barriers standing in the way. The effect of this is to transform the industry from the proprietary model of today, into a truly open model. The industry will be thrown open to an entirely different form of competition, creating major new business opportunities and growth.

For those who understand this model and how to deploy it, the business consequences are enormous.

A complete description of the Libre Services model is provided in the article titled *Libre Services: A non-proprietary model for delivery of Internet Services* [**?**].

2.2 The By* concept

Libre Services is a general conceptual model for delivery of Internet services. The By* family of services is an actual realization of this model.

By* is a coherent framework for enabling complex interactions among people, businesses and information. The By* framework is based on a formal engineering design approach. The architectural and design considerations are based on proper engineering discipline, rather than short-term marketing and business considerations.

This is what makes By* different from existing services. 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 and instantiate 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 of this structure and discipline is the By* family of services.

2.2.1 The By* family of services

The By* family includes services oriented towards each type of abstracted entity. There are four services oriented towards individual persons: ByName, ByNumber, ByAlias, ByMemory. The first three of these provide services for living persons, while the fourth is dedicated to preserving the memory of deceased persons. The By* family also includes services oriented towards business entities (BySMB/ForSMB), physical locations (ByWhere), events (ByEvent), 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).

The By* family of services is described in detail in *The By* Concept: A Unified Model for Internet*

Table 2: The By* Family of Services

Service Type	Service Name	Description
For businesses	www.BySMB.com www.ForSMB.com	Internet services for small-to-medium businesses.
For individuals	www.ByName.net www.ByName.com	ByName provides a complete set of Internet services for the individual user.
	www.ByNumber.net www.ByNumber.com	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.
	www.ByAlias.net www.ByAlias.com	A similar set of services to ByName, but based on an alias instead of the user's real name.
	www.ByMemory.net www.ByMemory.com	Services for preserving the memory of deceased persons.
For places and events	www.ByWhere.net	Services relating to physical locations.
	www.ByEvent.net	Services relating to events.
For information	www.ByTopic.org	Services for publication of information organized by topic
For making things happen!	www.ByInteraction.net	ByInteraction enables transactions involving persons, businesses, places and things.

Services [**?**]. A summary is provided in Table 2. Examples of By* instances are shown in Table 3.

The 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.

For a detailed description of the By* services and how they are different to existing services, see *The By* Concept: A Unified Model for Internet Services* [**?**].

2.3 Growth dynamics

The Libre Services and By* models include a set of powerful inherent growth dynamics. These are discussed in detail in *The By* Concept: A Unified Model for Internet Services* [**?**]; here we present only a brief summary. By* includes growth dynamics in the following respects:

Table 3: By* Instance Examples

Service Type	Domain Name	Description
BySMB/ForSMB	www.neda.com	A software development and Internet services company. An extensive and comprehensive website with over 100 pages. Technologies: Jetspeed, Tomcat, Gallery.
	www.NewDinnerware.com	An online store selling fine porcelain tableware. Includes standard e-retail features: shopping cart, checkout, credit card payment. Technology: Interchange.
	www.TalkToUS.org	A non-profit organization promoting better international understanding. Enables communication via short personal video messages. Technologies: Jetspeed, Gallery, streaming video.
	www.PinaMotorsports.com	An auto repair and specialized auto customization shop. Technologies: Plone/Zope, Interchange, Gallery.
	www.Payk.net	A non-profit organization for grassroots communication among Iranians. Technologies: Plone/Zope, Gallery.
	www.AllMuslimCemetery.org	An Islamic cemetery. Related to ByMemory; many gravesites have associated ByMemory memorials. Technology: Plone/Zope.
	www.LibreServices.org	A non-profit forum and resource center for development of Libre Services. Technology: Plone/Zope.
	www.BySource.org	A Free Software distribution center.
ByMemory	yazdan.1.banan.bymemory.net	A memorial site. Includes a genealogy and photo gallery; multilingual. Technologies: Plone/Zope, GeneWeb, Gallery.
ByName	mohsen.banan.1.byname.net	A personal website for a professional engineer. Includes a genealogy and photo gallery; multilingual. Technologies: Plone/Zope, blog, GeneWeb, Gallery.
ByWhere	info.1-98008-5807-10.bywhere.net	A ByWhere site used to provide address and driving directions. Technologies: Apache, Gallery.
	ForRent.1-98008-5765-05.bywhere.net	A ByWhere site used to provide house rental information. Technologies: Apache, Gallery.

- **Features and functionality**. The growth dynamic in terms of functionality is the powerful generative force of the free software development model. The free software movement is a flourishing creative environment, constantly producing new and better functional software components, and thus assuring ever-expanding features, capabilities and functionality of By*. This potent dynamic will cause By* eventually to surpass all proprietary services in terms of features and functionality.

- **By* deployment by other service providers**. Any company or organization can reproduce and operate the By* services for itself, thus becoming an independent Internet services provider. For a company with a large user base and an existing service delivery infrastructure (such as a large ISP, wireless network provider, or telephone company) the business case for this is clear and compelling. The value propositions are: immediate entry into the Internet Services market as an independent service provider, greatly expanded scope of relationship with an existing customer base, and access to a much larger and growing user base.

  Furthermore, the company can accomplish this extremely rapidly, at very low cost, and on the basis of several alternative business models to best fit the company's positioning and broader business strategies. Thus the growth dynamic for By* deployment by other service providers is the clear business motivation for this.

- **Service usage**. By* service usage will increase over time as a result of a number of motivations and influences acting in concert. These include:
  - The inherent merits of the services themselves in terms of protection of civil liberties: privacy, freedom of speech, and freedom of information.
  - The inherent merits of the services themselves in terms of completeness, close integration, and powerful functionality.
  - The ever-increasing richness of features and functional capability assured by the free software and Libre Services development models.
  - The growing societal awareness of these inherent merits, occuring as a result of on-going discussion and analysis, and influencing attitudes and behavior over time.
  - The open and free nature of By*, allowing unrestricted deployment and usage in any desired environment: commercial, non-commercial, government, academic.

  The summation of these and other growth dynamics results in a synergistic, monotonically increasing, grassroots acceptance and usage of the By* services model.

3 About this Initiative

This initiative is highly unconventional in a number of respects.

3.1 Scope and scale

First, the scope and scale of what we are doing is extremely large. This is not about a conventional product or service, as these are commonly defined and bounded. Rather, this is about the reinvention of an entire industry.

Our goal is to establish Libre Services as a new model for the Internet Services industry, and as the eventual replacement for the existing proprietary services model. In effect, this amounts to the creation of a new industry that today does not exist.

The scope of By* is similarly large. While Libre Services can be thought of as a conceptual model and philosophy for delivery of Internet Services, By* is an actual functional implementation of Internet Services. But in terms of functional capability, the scope of By* far exceeds typical Internet services as they exist today.

By* is a unified services model, integrating together the capabilities of numerous services that presently exist in functional isolation. For example, all the functional capabilities of MySpace, Evite and Craigslist are subsumed under ByName, ByEvent and ByInteraction respectively. However, these capabilities are fully integrated with one another within the general By* framework. The result is a far more powerful, coherent and complete services model.

The scope and scale of the Libre Services and By* initatives are thus enormous. The business opportunities are likewise enormous.

3.2 An engineering construct

Second, the Libre Services and By* models are first and foremost engineering constructs rather than business constructs. They are constructed based on formal engineering architectural principles for the design of large-scale systems. They are built to do something, and do it well. They are intended to bring real and enduring value to society at large.

The Libre Services and By* initiatives certainly have important business dimensions. But the business dimensions are a consequence of the engineering merits, not the other way round. This is in contrast to many other recent ventures within the Internet domain, where business imperatives are the driving motivation, to which engineering considerations take a back seat. But in the case of Libre Services and By*, the overriding principle is engineering integrity. The business dimensions derive naturally from creating something of value, that people will pay for.

This is not the first time a construct of this scale and significance has arisen. The best recent example is the World Wide Web itself, conceived originally as a method for sharing electronic information, but turning out to have gigantic social and business ramifications.

But in the past the originators of such constructs have exercised vision and leadership only in the conceptual and engineering domains, while neglecting to consider the business consequences. It has been left to others to recognize and develop, or perhaps exploit and abuse, the business possibilities.

Again the Internet provides a prime example. The Internet reality was created by engineers, who apparently gave little thought to the commercial possibilities. It was left to entrepreneurs and financiers to create the enormous commercial Internet industry, and along the way, turn the true Internet into the false Internet bubble.

Here again is where this initiative is different. We have conceived Libre Services and By* as formal engineering constructs, and we are exercising conceptual and engineering leadership to move these initiatives forward. But we have also recognized the business consequences right from the outset, and we are exercising leadership in that domain too. This Business Plan is part of that leadership.

The emergence of the Internet Services industry, and the accompanying shift of traditional software applications towards a service-based implementation, represent a major transformational event in the evolution of the Internet. This event may well give rise to a second round of Internet hype and frenzy, following the initial dot-com bubble of 1997–2001. Indeed, there is already widespread recognition of the "transformation of software into services" as the next major technological event in the evolution of the Internet, and the buzz has already started.

A period of irrational exuberance based on this will have the same general characteristics as the initial dot-com bubble. It will include a fundamental engineering reality, and genuine end-user value. But as the business dimensions of this reality emerge, the underlying reality will rapidly be overtaken by a vast amount of overblown commercial hype and profiteering, just as occurred for the dot-com bubble.

Libre Services and By* fall precisely into the space where this is likely to occur. But though we may see a second Internet bubble in the "transformation of software into services" arena, Libre Services and By* are not part of the overblown hype. They are the fundamental engineering reality.

3.3 Open and collaborative

But the most significantly unconventional aspect of this initiative is that it is based on openness and collaboration, rather than proprietary ownership.

The free software movement as we see it today is the first manifestation of a much bigger ideological shift: a shedding of the traditional conventions of material capitalism, and the adoption of a new set of conventions based on non-material capitalism. Western capitalistic societies are rooted in the historical conventions and institutions of material products and materially-based services. In the digital domain these conventions appear in the form of the proprietary software model.

But in the digital domain there is a different and better way of doing things. The power of free software derives from a relinquishing of the traditional intellectual property conventions. Instead, free software is based on a set of principles that allow powerful generative forces to come into play. Thus traditional copyright is rewritten in the form of copyleft; ownership of software via patents is relinquished in favor of patent-free protocols and software; self-interested software hoarding via trade secrecy is relinquished in favor of openness and collaboration.

The result is a convention of engineering freedom and collaboration, based on collective pooling of resources. The essential premise is quite simple: in the digital domain there is more to be gained by collective pooling than by individual ownership.

This initiative is about the application of this premise to the domain of Internet services. The resulting open collaborative model brings the enormous generative and propagative power of free software to Internet services.

The open and collaborative nature of this initiative, and its industry-wide scope, are opposite sides of the same coin. In the case of a proprietary software product or service, based on ownership via patents, copyright and trade secrecy, the owning entity can only do what can be accomplished by its own in-house resources. Of necessity, this limits the scope of any proprietary venture to that of a traditionally bounded product or service.

But in the case of a non-proprietary construct such as free software or Libre Services, all such limitations are removed. The construct is now open to participation by anyone, and so can truly form the basis for an entire industry. It is the open and collaborative nature of Libre Services that enables its industry-wide scope.

Conversely, any industry-wide enterprise must, of necessity, be open and collaborative. It is simply not possible to achieve anything of such large scope while constrained within the ownership model of a single entity.

4 About this Business Plan

This Business Plan has been written for the following purposes:

- **For internal clarity**. The primary purpose of this plan is to establish clarity and coherence of thinking within the Neda team. This plan is the result of extensive discussion and thinking among ourselves. We have thought through and fully defined every aspect of this project and our execution strategy. This plan captures and documents the resulting team consensus.

- **For public readership**. The second major purpose of the plan is to make it available for general public readership. The plan is intended for anyone who is interested in what we are doing and wishes to learn more, or who wishes to participate in any way.
- **As part of a framework for participation**. Since this is an open collaborative initiative, the necessary industry-wide collaboration must be properly enabled. To this end we have established a coherent framework for participation, which we describe in the following section. This Business Plan is a component of that broader framework, and plays the role of describing the business dimensions of Libre Services and By*.

  The success of Libre Services and By* requires participation by many constituencies, including among others the engineering community, the business community, and the investment community. This Business Plan is intended to facilitate participation by all these constituencies.

  The primary purpose of a conventional Business Plan is to acquire financing, and that is one of the purposes of this plan too. To that end the plan is intended to enable investment participation. But the investment community is just one among multiple audiences for this plan.
- **To describe the business model**. The traditional business model is based on a proprietary ownership model. But Libre Services are completely non-proprietary, and therefore the critical ownership element of the traditional business model do not apply.

  In this Business Plan we describe the key aspects of our business model, including the revenue models, competitive advantages, and end-user adoption models.
- **To describe our execution strategy**. In this plan we also provide details of our exection strategy, including the order in which we will develop the various revenue streams, and our marketing and recruitment plans.
- **For recruiting**. To execute our plans we will need the participation of talented and experienced people. The Business Plan is part of our recruiting pitch to prospective team members. For anyone interested in working with us, the plan presents the uniqueness and scope of what we are doing. And for people who then choose to join the Neda team, the Business Plan helps to create team cohesion and unity of purpose.

4.1 An open Business Plan

Since our engineering and business models are non-proprietary, there is no need for the close secrecy surrounding a traditional proprietary business model. On the contrary, since this initiative is based on openness and participation, it is necessary to articulate it fully to others.

This includes its business dimensions. Therefore in what we believe is a first in the history of business practice, we are documenting our business model in the form of an Open Business Plan, freely available for readership by anyone. This is completely at odds with customary business practice, but is fully consistent with the open and participatory nature of this enterprise.

This is also largely a Business Plan by reference. We have documented every aspect of this initiative in the form of a number of separate documents. Thus the plan takes the form of a roadmap and directory to these supporting materials. Here we provide a high-level overview of the major concepts, together with references and pointers as appropriate.

5 Framework for Participation

The Libre Services initiative is big and ambitious. Something this big is not accomplished by any single company acting alone. Instead it takes place as a distributed industry-wide enterprise, involving many participants.

In particular this enterprise requires the participation of three major consituences: the engineering community, to build the necessary Libre Services infrastructure; the business community, to deploy and deliver Libre Services to end-users; and the investment community, to finance engineering and business development. To these we may usefully add a fourth: the academic community, to provide analysis and critique of these radical new engineering and business models.

Such diverse participation does not take place in a vacuum. Instead, it is greatly facilitated if there exists an enabling framework for participation. To this end we have established a coherent framework for participation by all relevant constituencies.

5.1 Separation of responsibility: Neda and FPF

The overall Libre Services and By* initiatives include activities which naturally fall under different areas of responsibility.

Engineering development of Libre Services software is a communal activity, and the results of this work are communal industry resources, available for use by anyone. The body of Libre Services software is not owned by anyone, in any restrictive sense. On the other hand, deployment and delivery of supported services for end users is a business activity, and the necessary technical and business infrastructures are owned and operated by commercial entities. Throughout this initiative it is necessary to maintain a clear conceptual separation of these two sets of activities, and where responsibility for each resides.

We have established a separation of responsibility to address this issue. Responsibility for moving this initiative forward is divided between two separate entities:

- The **Free Protocols Foundation** (FPF) is responsible for Libre Services, the public side of this initiative. Among other things this includes responsibility for establishing the conceptual definition, creating written materials to articulate and promote the concept, and establishing a framework for collaborative engineering development of Libre Services software. All general industry enabling work is the responsibility of the FPF.

  At the outset, the FPF is also playing a hands-on engineering role, and taking responsibility for creating momentum in the engineering development arena. Under the FPF we are doing the necessary work to create a set of starting-point engineering resources.

- **Neda Communications, Inc**. is the creator and owner of By*, the private side of this initiative. We are exercising leadership in the business arena by deploying and operating a set of usable, first-generation Libre Services in the form of the By* family of services. Thus all By*-related work is associated specifically with Neda.

For complete details about the complementary roles of the FPF and Neda see *Libre Services: A non-proprietary model for delivery of Internet Services* [**?**]. Complete information about the FPF itself is available on the FPF website at: www.freeprotocols.org.

5.2 Libre Services participation

Under the auspices of the Free Protocols Foundation we have created a framework and set of resources for public Libre Services participation.

The first element of the framework consists of a comprehensive articulation of the concept. Participants need to understand the concept clearly. To this end we have documented the concept in the form of an industry white paper titled *Libre Services: A non-proprietary model for delivery of Internet Services* [**?**]. This paper provides a complete conceptual description of Libre Services. For anyone wishing to learn about Libre Services, this is the right place to start.

The creative model for Libre Services is collaborative software development. Such collaborative development requires a proper framework to proceed effectively. Under the FPF we have established the following framework for participation:

- **LibreServices.org**. LibreServices.org is the central location and forum for collaborative development of Libre Services. It provides information and resources for developers, and acts as the central repository and distribution point for Libre Services software. The software repository includes automated mechanisms to allow developers to retrieve software components from the repository, then resubmit modified software back into the repository.

- **Starting-point software components**. We have done the initial development work to create a set of starting-point, reference software components. These are available for immediate use as the basis for engineering development. Refer to *Libre Services: A non-proprietary model for delivery of Internet Services* [**?**] for details.

- **Project-based collaboration model**. We have defined a project-based collaboration model, consisting of a set of projects required to move the Libre Services initiative forward. Each project is largely independent and self-contained, and ready to be undertaken by an interested group or organization immediately. This allows efficient, coordinated collaboration on multiple projects in parallel.

  Each project is defined in the form of a Project Document, providing a complete specification for the project. The complete list of projects and Project Documents is provided in a separate article, titled *Libre Services: Projects for bootstrapping* [**?**].

5.3 By* participation

Libre Services is general public initiative, being driven forward under the leadership of the Free Protocols Foundation. By* is a private commercial enterprise being conducted by Neda Communications, Inc.

We have created appropriate resources to enable participation in the commercial By* enterprise by prospective business partners, investors, and employees. As in the case of Libre Services, the first and most fundamental requirement is a clear articulation of the concept. Prospective By* participants need to understand the concept clearly. To this end we have documented the By* concept in the form of two documents:

- ***The By* Concept: A Unified Model for Internet Services*** [**?**]. This paper describes the By* concept and family of services from a technical perspective.
- **The Business Plan**. The Business Plan (this document) describes deployment of By* from a commercial perspective.

We have also established a framework for investment participation. This is described later in Section 13, Financing.

6 Revenue Models

The By* deployment offers many potential sources of revenue. The major revenue sources are summarized in Table 4.

The rows of the table list the various forms of revenue by general type, such as subscriber service fees, advertising, consulting, etc. The revenue types are listed in their approximate order of magnitude, long-term. Thus the major revenue sources of web hosting, subscriber service fees and advertising appear at the top, while minor non-recurring sources such as consulting appear near the bottom.

Shaded rows indicate revenue sources that are recurring, and thus of greatest interest. Rows that are heavily shaded indicate "true" recurring revenues, meaning revenues that are repeating, calendar scheduled, contractually associated with a specific customer base, while incurring negligible direct costs. Thus web hosting, subscriber service fees and advertising are the classical Internet revenue sources of this type.

The lightly shaded rows indicate revenue categories that are not recurring in this strict technical sense, since they are not necessarily calendar scheduled, and may not be associated with a specific customer base. Nevertheless these revenue types generate a known, regular, stable revenue stream, again while incurring negligible direct cost. From a business revenue perspective therefore, they have much the same merits as the truly recurring revenue types. The two largest revenue categories of this type are transaction fees, and the service franchising model.

The columns of the table list the components of the overall By* deployment. The components are listed very roughly in their order of expected deployment, starting with BySMB/ForSMB, and ending with the indeterminately scheduled WhiteBerry deployment.

For convenience we will use the term "By<*Individual*>" to refer collectively to the four services for individuals. Thus By<*Individual*> = {ByName, ByNumber, ByAlias, ByMemory}.

As shown in the table, each of the By<*Individual*> services will be provided in the form of two separate deployments: By<*Individual*>.net and By<*Individual*>.com. The By<*Individual*>.net services will be provided to users fully supported and advertising-free. The major revenue stream for this deployment

Table 4: Revenue Streams

	Phase I			Phase II				
	Pre-By* revenues	BySMB/ ForSMB	ByName.net ByNumber.net ByAlias.net ByMemory.net	ByName.com ByNumber.com ByAlias.com ByMemory.com	ByWhere ByInteraction	ByEvent ByTopic By* user environments	Registrar	Libre Engines, WhiteBerry
Hosting		B						F
Subscriber Services			C					F
Advertising				D	D			
Transaction fees					D			
Franchising		E	E	E	E			
Website development & customization		B	C					
Deployment & software consulting			C					F
Registration processing fees							E	
Software licenses								F
Colocation	A							
Consulting	A							
Non-revenue				C		E		

consists of subscriber service fees. The By<*Individual*>.com services will be provided at no cost to users and without support. The major revenue stream for this deployment consists of advertising revenues.

Each table cell with a letter entry indicates a revenue stream associated with the corresponding revenue category and By* component. Empty table cells indicate that there is no associated revenue, or the revenue source is considered to be relatively minor.

The letters themselves indicate the stage of execution at which that particular revenue stream will be developed, as we describe in detail in Section 7, Execution. Thus A indicates current pre-By* deployment revenues, while F indicates the indeterminate future WhiteBerry deployment.

Everything flagged in the table represents a viable and significant revenue stream. However, the various revenue sources vary widely in terms of how well-characterized they are, and at what point they will be realized. As described in Section 7, our execution plan consists of two broad phases. Phase I consists of the development of revenues that are well-characterized and practical within the near term. Phase II consists of the development of longer-term revenues. Some of these are new types of revenue sources deriving from the By* model, and are less well-characterized at this time.

6.1 Hosting and subscriber services

Hosting and subscriber services refers to the regular fees for supported BySMB/ForSMB and By<*Individual*>.net websites. Support for business websites is commonly referred to as "hosting," while support for individual websites is commonly referred to as "subscriber services." In the table these two revenue types are broken out as separate rows to indicate that one is associated with BySMB/ForSMB and the other with By<*Individual*>.net, but from a technical standpoint the two operations are essentially the same thing: the management of a website along with all its associated services.

Hosting and subscriber services are the major long-term revenue source for the By* deployment, based on the standard Internet service subscription fee model. The extremely large size of this revenue stream derives from the planet-wide scale of the By<*Individual*>.net services.

6.2 Advertising

Advertising is also a major long-term revenue source, and is the primary revenue stream derived from the By<*Individual*>.com, ByWhere and ByInteraction services. There are no regular subscription fees associated with any of these services. The revenue model is the proven Internet advertising model, as exemplified by Google and many other no-cost services.

The extremely large size of the advertising revenue stream again derives from the planet-wide scale of the By<*Individual*>.com and ByInteraction services.

6.3 Transaction fees

Transaction fees refers to usages of services for which it is usual or appropriate to charge fees, such as classified advertising, job postings, etc.

Transaction fees are a secondary revenue source from usage of the ByWhere and ByInteraction services.

6.4 Franchising

The Libre Services model offers a unique deployment and revenue generation model, not shared by the proprietary services model.

Note that since the By* services are all Libre Services, they can be reproduced and operated as a service by anyone. But not under the By* name. The underlying software is all free software, to be reused as a communal resource by anyone, but the By* brand name and the By* domains (ByName.net etc.) are business assets of Neda. Likewise the operational characteristics of the services, as distinct from the engineering functionality, are defined by Neda. This includes such things as the terms of use, pricing schedule, customer support policies—in fact any aspect of operation or delivery of the service that relates to the relationship between the service provider and the user. All these things are characteristic of the By* brand name, owned and operated by Neda.

One way a service provider can reproduce the By* services is to rebrand them under its own name—for example, the Acme* family of services. There will be AcmeName.net, AcmeNumber.net etc., all delivering functionally identical services to ByName etc., but now these brand names and domains are assets of the Acme Mail Order and Internet Services Company Inc., and the services are delivered under Acme delivery terms and policies. Under this arrangement Acme is wholly independent, having no relationship with Neda at all.

Alternatively, Acme can become a By* franchisee. Under this arrangement, Acme becomes a provider of the By* services, branded as such, and under exactly the same terms and conditions as the By* services provided by Neda.

The services provided by Acme will now be a true clone of the By* services, both functionally and operationally. Any user of the Acme-operated By* services will be assured of receiving services that provide an identical user experience to using the Neda-operated By* services. Just as the patron of a franchised McDonald's in Beijing is assured of an identical fine dining experience to a McDonald's patron in Chicago.

Under the franchise operation the entire set of By* services is packaged and provided to an independent service provider, who then provides identical services to a particular demographic or subset of users. There are many situations in which this arrangement is a logical choice for the service provider. For example, a third-world country might have only primitive and undeveloped Internet services available to its consumers. An entrepreneur wishing to provide the far superior By* services to this demographic could franchise the entire packaged set of services, then take responsibility for delivering them to this particular demographic. Note that the inherent hiearchy of the Internet and its domains provides an ideal structure for the creation and management of such franchises.

The franchise operation is a key mechanism for growth of the By* services. Clearly, this is an enormously powerful propagation mechanism. As the By* services gain ground, this will become an increasingly important propagation and revenue model. It is the franchise model that allows the By* services to become truly global. Equally clearly, the financial rewards are enormous for the company that is operating the franchise. As the owner of the By* brand and top-level domains, the franchise model provides another gigantic revenue model for Neda.

The franchise model extends across all revenue-generating members of the By* family, including BySMB/ForSMB, By<*Individual*>, ByWhere and ByInteraction.

6.5 Website development and customization

For the By* services where a website is supported for an individual person or business (i.e. BySMB/ForSMB and By<*Individual*>.net), there are three models for setting up the website:

- **Self-service**. Under the self-service model, businesses and individuals set up the website on their own on an automated basis, in the same way that user accounts are typically created under the existing proprietary services model. Getting a ByName account is a simple as getting a Yahoo or MySpace account.
- **Neda-assisted**. Under the Neda-assisted model, Neda provides basic flat-rate assistance to create websites for business and individual users.
- **Custom development**. Under the custom development model, Neda takes responsibility for creating the client's web presence on a consulting basis. Under this model clients can direct their own specific website development and/or customization requirements.

It is expected that a large proportion of BySMB/ForSMB clients will require custom website development to meet their specific business requirements. The BySMB/ForSMB deployment thus includes a significant website development revenue stream. This is a non-recurring revenue stream and does not scale; nevertheless it plays an important role in our execution strategy as an early stage revenue source.

It is expected that a much smaller proportion of By<*Individual*> subscribers will require assistance or customization.

6.6 Deployment and software consulting

Deployment and software consulting refers to consulting work relating to deployment of By* components by other service providers. This encompasses a number of situations and scenarios, but these generally consist of two major categories:

- By*-related consulting. This includes consulting work for clients who are deploying the By* services under any of several business models, either under the By* name, or rebranded as an independent service offering under the client company's own name. This also includes custom software development work for clients who require specific enhancements or customizations to the By* Libre Engine software.

  This also is a non-recurring, non-scaling revenue stream. But it also plays an important role in our execution strategy, both as an early stage revenue source, and as a mechanism for increasing general By* service deployment.

- WhiteBerry-related consulting. This consists of consulting and software development support services for clients who are deploying the WhiteBerry mobile messaging solution. This is described below in Section 9.1.1.

6.7 Registration processing fees

One of the unique characteristics of the By* architecture is its hierarchical naming model, based on consistent and extensive use of the Internet domain naming system. This allows the naming and addressing of very large name spaces within the By* structure.

As owners of the top-level By* domain names, this places Neda in the position of allocating subdomain names to entities within the By* structure. Thus in effect Neda is the naming authority for these entitites. This represents another revenue opportunity for Neda, similar to the existing Internet registrar function. There are various registration requirements and responsibilities within the By* structure, including allocation of domains, names, numbers, and certificates.

This is a new type of revenue source for an Internet service provider, resulting from the unique characteristics of the By* concept and architecture. Development of this revenue source is part of our long-term direction statement. A precise business model for managing this revenue source has not been established at this time.

6.8 Colocation

We maintain our own state-of-the-art Data Center to support the By* deployment. All By* services, and also the WhiteBerry mobile messaging services, are hosted at the Data Center. The Data Center is fully capable of supporting deployment of By* up to very large scale. Complete details about the Data Center are provided on the Neda website at:
http://www.neda.com/InternetServices/OurDataCenter/

In addition to the By* services we can also use the Data Center for general colocation services, thus generating an additional recurring revenue stream. Colocation refers to providing only physical support for client servers, including rack space, power, environmental control, security, and network connectivity. Operation and maintenance of the servers themselves remains the responsibility of the colocation client. We can provide colocation services to any company or client who requires this, whether related in any way to Libre Services or not.

The colocation revenue stream is not related to the general By* deployment. But it is recurring, and plays an important role as an on-going self-financing revenue source.

We are always interested in acquiring additional colocation clients. If you have colocation requirements that fit our general working model and philosophy, please feel free to contact us directly.

6.9 Consulting

Consulting refers to general data communications consulting services, not necessarily related to Libre Services and By*. This has been the primary source of company revenue since inception, and continues to support our on-going operations.

As a long-time consulting company we are always on the lookout for the right sort of consulting work. In the context of this Business Plan we are particularly interested in projects that have good synergy with Libre Services and By*. If you have a project that fits well with these strategic goals please feel free to contact us directly.

6.10 Non-revenue

The last row of the table indicates those elements of the By* deployment that generate no or limited direct revenues.

In their initial deployment in Stage C, the By<*Individual*>.com services will not generate revenues. These will be provided at no cost to users, as a free look-and-see service as an uptake mechanism for By<*Individual*>.net. The advertising model for By<*Individual*>.com will not be developed until Phase II.

The ByEvent and ByTopic services provide only limited direct revenues. There are no user service charges or transaction fees associated with these services. The primary purpose of these services is to complete and enhance the overall utility of the By* family, thus generating revenues indirectly. There are potential advertising and franchising revenue streams associated with ByEvent and ByTopic, but these are relatively minor and not shown in the table.

The By* user environments also serve to greatly increase the utility of the By* services. There are no direct revenues associated with this element of the By* deployment.

7 Execution

As noted in the previous section, there is a large number of potential revenue streams associated with By*. This creates a great deal of flexibility in execution. In particular, the execution is highly adaptable to the availability of external financing. With no external financing, the revenues can be developed in a gradual self-financed mode. With full funding the revenues can be developed in a highly parallel and large-scale mode.

The following execution plan describes our execution in a wholly self-financed mode, i.e. assuming no external financing at all. In Section 7.4 we describe how the execution can be adapted to various levels of financing.

7.1 By* deployment schedule

There are many ways to generate revenues from the By* deployment. There are multiple revenue streams associated with this enterprise, and at different points during the development of Libre Services and By*, Neda will generate revenue from all of them.

The multiplicity of revenue streams creates both opportunities and challenges. The challenge is to develop the revenue streams in a logical order. We have formulated a coherent plan for deploying the By* services. We will be developing the various revenue streams in a particular order, based on a number of factors including:

- Required development and deployment investment to reach revenue returns
- Magnitude of expected resultant revenues
- Controllability of deployment—the ability to deploy at a small and/or gradually increasing scale
- Service support requirements
- Synergy of functionality among the accumulating family of deployed services

The following execution plan describes the order of By* development and deployment and development of the associated revenue streams. But it should be noted that our execution strategy is highly flexible and readily adaptable to changing industry conditions, availability of external financing, and other future contingencies. The execution roadmap presented below is the order of execution based on current expectations, and assuming no external funding. In this roadmap we develop the revenue sources according to a bootstrap model, bringing the revenue streams on line in the appropriate order to deploy services and build revenues at a gradually increasing scale.

Table 4 shows the general stages in which we will be deploying services and building revenues. The letter in each cell indicates the stage at which that particular revenue stream will be developed. The revenues will be developed in several stages, consisting of two broad phases, as follows:

- Phase I: Near-term deployment

- Stage A. Stage A consists of on-going financing based largely on colocation and consulting revenues.
- Stage B. Stage B consists of the development of the BySMB/ForSMB revenue model, consisting largely of website development fees, and website hosting fees.
- Stage C. Stage C consists of the early development of the By<*Individual*>.net services. The major revenue stream is subscription service fees. There is also a website customization revenue stream at this stage.

* Phase II: Long-term direction statement

  - Stage D. Stage D consists primarily of development of the advertising revenue stream from the By<*Individual*>.com services. ByWhere and ByInteraction will also be developed at this stage, providing both advertising revenues and transaction fee revenues.
  - Stage E. Stage E consists primarily of development of the franchising model for all relevant By* family services. At this stage we will also develop the registrar process fee revenue stream. We will also deploy the ByEvent and ByTopic services, and the By* user environments.
  - Stage F. Stage F consists of active development of revenues related to Libre Service Engines, and the WhiteBerry messaging model. In the case of the Libre Service Engines, these consist of software and deployment consulting revenues. In the case of WhiteBerry, these also consist of subscriber service fees, and software licensing fees. Stage F is very flexible in timing.

Phase I is very well-characterized, with a clear execution plan and schedule. The revenue streams are well understood, and the assets are all in place to execute Phase I. The primary emphasis throughout this plan is on execution of Phase I.

Phase II is much less clear. Phase II is more of a long-term direction statement, with no schedule or detailed execution plan.

7.2 Phase I: Near-term deployment

Phase I consists of the revenue development stages to be conducted over the next year or two. This work will take place either under the self-financed model, or based on first-stage financing of up to $2M.

7.2.1 Stage A: Pre-By* revenues

Stage A consists of pre-By* revenues from consulting, and from use of our Data Center for colocation. We are already fully capable of supporting colocation clients, and already have modest recurring revenues from this source. We continue to develop this revenue source by soliciting additional colocation clients.

Table 4 includes a column to show the primary sources of revenues prior to deployment of By*. This pre-By* financing refers to the revenue sources that have financed this initiative so far, and that continue to finance on-going operations.

Thus far the primary sources of pre-By* revenues have been general data communications consulting services, and more recently a small but growing colocation revenue stream. We expect these revenues to be quickly overtaken by the much bigger By* revenue streams. But in the short term these revenue sources continue to play a critical role within the self-financed model. In particular we continue to solicit and populate the Data Center with additional colocation clients as a recurring revenue source.

Though not shown in the table, early BySMB/ForSMB revenues have also been a component of our early self-financing revenues. We have already created BySMB/ForSMB websites for a number of clients, thus generating website development revenues, and also establishing a small but growing hosting revenue stream. We continue to solicit additional BySMB/ForSMB clients.

All the work we have done so far has been financed by the above revenue sources.

7.2.2 Stage B: Deployment of BySMB/ForSMB

The next stage of our execution strategy is early deployment of BySMB/ForSMB. This is the next source of revenue to be actively developed. This is because BySMB/ForSMB clients can be established with minimal additional investment from where we are today, at a small and controllable scale, requiring very little in terms of customer support infrastructure, while still generating significant revenues.

BySMB/ForSMB generates two revenue streams: website development consulting for business clients that require this (non-recurring), and hosting revenues (recurring).

We already have a number of business clients for whom we have created custom websites under the BySMB/ForSMB model. Several of these clients are shown as examples in Table 3. A more complete list is provided on the Neda website at http://www.Neda.com/InternetServices/ClientList. We continue to solicit additional BySMB/ForSMB clients as a source of gradually increasing consulting and hosting revenues.

In addition we are now actively developing the BySMB/ForSMB services to allow self-service (fully automated) creation of BySMB/ForSMB websites by business users. This will allow business clients who do not require custom website development to create their own "standard" website presence on a hosting fee basis.

BySMB/ForSMB revenues will be particularly important in the absence of external financing, because in the case of BySMB/ForSMB, these can be deployed at small scale in self-financed mode. These revenue sources will finance our execution plan in the absence of significant external financing.

The importance of these self-financing revenue streams diminishes depending on the amount of external financing available. With no external financing, these will be very important early revenue sources that we will develop diligently. With a large amount of external financing their importance is greatly diminished in favor of developing the bigger long-term revenue sources.

7.2.3 Stage C: Deployment of By<*Individual*>.net

Stage C consists of the deployment of the By<*Individual*>.net services. Under the self-financed schedule this will take place largely in parallel with Stage B. The major revenue streams are subscription fees. There are also website customization revenues for those users who require this.

ByMemory deployment

ByMemory is the first of the By<*Individual*> services to come on line and begin generating revenues. This is because ByMemory is already largely functional, and ready for immediate account creation and usage by anyone. Also, the support requirements for ByMemory accounts are minimal. Therefore this is an appropriate candidate for immediate revenue development. Development of the ByMemory revenue stream will take place in parallel with that of BySMB/ForSMB. We will initially develop ByMemory at small scale. Though the revenues from this are small, they are recurring revenues, and require almost no customer support.

The majority of the expected revenue stream is straightforward subscription fees. There will also be a modest non-recurring website customization revenue stream for users who require this.

Development of ByMemory revenues consists of the creation and usage of accounts by end users. Our strategy for this is similar to our strategy for populating the ByName service: it consists of identifying and targetting large batches of candidate ByMemory names. We will accomplish this by contacting businesses with access to large numbers of candidate ByMemory names, such as cemeteries and funeral directors. We will offer to create large numbers of ByMemory accounts in batch mode, and advise the surviving relatives that the ByMemory account now exists for their immediate usage. We will also propose entering into appropriate business relationships with such businesses, whereby we create ByMemory accounts for their clients on an on-going basis.

ByName deployment

The next service to undergo deployment and development is ByName. ByName is currently under active development. This is the major Phase I revenue source, and the flagship By* service. It is the most immediately visible of the By* family of services, intended to provide all essential personal computing and communications services for individual users, with extremely large revenue potential.

In contrast to BySMB/ForSMB, ByName services do not generate significant revenues at small scale, and in contrast to ByMemory, ByName services do have significant customer support requirements. Therefore an important element of our execution strategy is to deploy ByName at large scale. Therefore a key element of our execution and revenue-building strategy is rapid population of the ByName service following initial build-out and deployment. Our strategy for accomplishing this is described in the following section.

The ByNumber and ByAlias services have a high degree of functional overlap with ByName; in fact these are largely a functional subset of ByName. These services will generally track ByName in terms of development and deployment

Stage C also includes deployment of the By<*Individual*>.com services, but as free look-and-see service as an uptake mechanism for By<*Individual*>.net. The advertising model for By<*Individual*>.com will not be developed at this stage.

ByName service population strategy

A critical element of our execution strategy is the rapid population of the ByName service with large numbers of candidate users. The key to this is identifying and targetting locations with large batches of potential user names.

In principle, any large database of names will serve for this purpose. In practice it is most appropriate to target the user databases of companies already within the Internet and/or telecommunications sectors. Our initial targets for ByName deployment will be the large ISP companies, wired and wireless. Following that are other companies in the Internet and telecommunications sectors, such as wireless network providers and traditional telephone companies.

We will identify such companies, and present them with our very powerful business message. We will offer to create ByName accounts for all their current users, and advise the users that the account now exists for their immediate usage. By means of this strategy we will create large numbers of user accounts extremely rapidly.

By* deployment consulting

In Section 2.3, and in greater detail in *The By* Concept: A Unified Model for Internet Services* [**?**], we describe the very strong business motivations for companies to deploy the ByName service.

Note that regardless of which business model a company adopts for deployment of ByName, it can benefit greatly from consulting assistance from the originators and leaders of the Libre Services and By* initiatives. We have all the necessary experience and assets to assist any company in deploying any By* service quickly and efficiently under any business model.

Therefore there is a further major consulting opportunity and revenue stream available to Neda during early industry adoption of the Libre Services and By* models.

In the long run consulting revenues are rapidly eclipsed by other forms of revenue, since the consulting revenue stream is non-recurring and does not scale. But in the short term this consulting activity plays an important role for a number of reasons:

1. It is a significant revenue stream, available early in Phase I execution.
2. In the absence of external financing, it is a major source of self-financing revenues for continuing execution of our plans.
3. It is part of our strategy for rapid population of the ByName service.
4. It is part of a broader strategy for facilitating and promoting industry-wide adoption of Libre Services and By*.
5. In the case of client companies requiring specific features and enhancements, this is a synergistic mechanism for advancing the capabilities and robustness of By*.
6. Depending on which business model the client company adopts, additional revenues will accrue to Neda based on a business partnership or franchise relationship with the company.
7. Consulting clients for deployment of By* services may in some cases choose to colocate with us, thus providing a further revenue component.

7.3 Phase II: Long-term direction statement

Phase II consists of revenue development stages to be conducted significantly later. Under the self-financed model these will not be developed until revenues from Phase I operations are sufficient for this. Based on a funding model, Phase II will be financed by the second-stage funding of $15M.

7.3.1 Stage D: Advertising and transaction fees

Stage D consists of major development of the advertising revenue model for By<*Individual*>.com, and other revenues commonly associated with the delivery of zero-cost services.

Stage D also includes development and deployment of the ByWhere and ByInteraction services, and development of their associated advertising and transaction fee revenues.

7.3.2 Stage E: Franchising

Stage E consists of major development of the franchise revenue model.

Stage E also includes development and deployment of the ByEvent and ByTopic services, and development of the By* user environment.

Stage E also includes development of the processing fee revenue stream from the Neda registrar function.

Under the self-financed model, the ByWhere, ByInteraction, ByEvent and ByTopic services will not be developed and deployed for large scale usage until revenues are available to support this. During Phase I we will continue to do conceptual development of these services, and establish basic placeholder services as appropriate. But these will not be developed as major revenue sources for some time to come.

7.3.3 Stage F: WhiteBerry mobile messaging

Stage F consists primarily of active develoment of the WhiteBerry mobile messaging solution. The WhiteBerry deployment is largely independent of the overall By* deployment execution strategy, so the timing of this is very flexible. This can be played as a wild card whenever industry conditions are right for this.

7.4 Adaptability to financing

As previously noted, because of the multiplicity of business opportunities and revenue streams available, our execution plan is very flexible. In particular the execution plan is readily adaptable and can be modified as appropriate depending on the amount of external financing available.

The above execution roadmap and schedule is a self-financed model, assuming no or modest external financing. Assuming the opposite extreme of a full funding schedule ($2M initially, followed by a $15M second round), we will modify the execution plan in the following ways:

- We will expedite and accelerate the Phase I execution plan.

- Rather than executing in a generally serial mode, we will execute in an increased parallel mode, conducting all planned Phase I execution in parallel.
- We will initiate long-term planning for engineering development of the Phase II technical components.
- We will also subject the execution plan to a major shift of emphasis, shifting emphasis away from the smaller early-stage revenue sources such as consulting, and instead placing immediate major emphasis on the key Phase I revenue stream of subscriber services fees from large-scale usage of By<*Individual*>.

  However, emphasis will continue to remain on Phase I. Even under a full-funding scenario, Phase II will remain a long-term direction statement, and no major Phase II activity will take place under the first round of financing. A key goal and milestone to be reached is positive cash-flow status on the basis of the Phase I deployment. This will remain the initial focus even under full financing.
- We will execute at large scale immediately, rather than building scale over time. In the case of ByName, for example, we will begin to build the technical and business infrastructure to support planet-wide deployment immediately.

In the case of less than full financing, we will expedite the execution plan as appropriate to the amount of financing available. Any funding we receive during Phase I will be used to accelerate the recruiting process and Phase I schedule, and start on Phase II sooner.

7.4.1 Self-financed scenario

Under the self-financed scenario, execution of Phase I will be gradual and controlled. The scale and features of the services deployment will be defined and reevaluated on an on-going basis, and will be reactive and responsive to market conditions and experiences.

The key goal of Phase I under self-financing is to have the Stage B and C deployments become meaningfully operational and generate meaningful revenues. The number of users and the magnitude of revenues required to achieve this goal remain undefined.

In terms of schedule, it is expected that major execution of Phase I will take place throughout 2008 and 2009. As Phase I progresses we expect to see a gradual shift in the revenue balance from Stage A to Stage B, then from Stage B to Stage C.

Under the self-financed scenario there will be no scheduled Phase II activity; the focus will remain on solidification and consolidation of the Phase I deployments. Phase II remains a direction statement, to be revisited later. Without external financing, it is not expected that any Phase II activity will take place until 2009 at the earliest.

All these schedule statements are based on current projections and estimations, and are subject to change based on future contingency.

7.4.2 Fully-financed scenario

Under a fully financed scenario, the focus will remain on Phase I execution. However, all consulting activities will be sharply restricted and highly selective, and will be limited only to consulting projects relating directly to By* uptake.

In the case of the Stage B and Stage C deployments, we will execute in a proactive rather than a reactive mode, defining explicit targets in terms of number of users and revenues, and staffing up accordingly.

With the initial round of financing we will still not conduct any execution of Phase II; the emphasis will remain on Phase I. However we will place some emphasis on scaling up By<*Individual*>.com usage to large numbers, in preparation for the Phase II advertising model.

The key goal of Phase I under the financed model is to become cash flow positive within the first round of financing. The major use of proceeds is to expedite and accelerate Phase I execution.

The schedule for this remains undefined at this time.

7.5 Engineering and operations

Deployment and support of the By* services at their intended scale represents a major engineering and operations challenge. The services must be up and running constantly, and must provide a very high degree of functional reliability. At the same time the services must expand continuously in terms of features and functionality, and must be able to grow continuously in terms of scale of usage.

The Libre Services model is a complete, not partial, free software development model. Conducting engineering and operations activities within this model demands a set of cultural, structural, management and procedural processes that are not well established within the industry at this time.

While many engineering and business environments make extensive use of free software components, they remain ”mixed” environments, in which free software components are used alongside proprietary. In the commmercial world engineering environments based on total, as opposed to partial, free software usage are non-existent, and in most commercial engineering and business environments of today the total cost of ownership of free software remains very high.

We are long-time developers, integrators and users of free software, and though this is rare in the commercial domain, we have developed great expertise in its deployment in a commercial context. Based on this expertise, we have established an initial broad-based starting point for all By* services.

Our initial deployment of By* is of limited scope and scale. But our engineering architecture and design is evolutionary and scalable both in terms of number of users, and in terms of features and capabilities. Though the initial implementations are relatively small in scale at this time, the overall architecture is highly scalable, and the services can be expanded up to extremely large scale.

Our Data Center has been architected to scale up to well over 10exp5 (hundreds of thousands) of users. The engineering and operations processes and disciplines we have established can grow and scale to meet the intended scale of the By* services.

Though Libre Services and By* are revolutionary models for delivery of Internet services, their engineering implementation is evolutionary in nature. In particular, deployment of these models involves no disruptive technology. The adoption of By* requires no fundamental technological change on either the user side or the server side.

The overall architecture of the By* Libre Services is discussed in Section 3.1, ”Technological context,” in the article titled *Libre Services: A non-proprietary model for delivery of Internet Services* [**?**].

Our engineering and operations methodology for meeting these challenges includes three major components:

1. A coherent framework for services integration: the Libre Services Integration Platform (LSIP).
2. A consistent and disciplined free software selection process.
3. Discipline and processes for Data Center operations.

These are discussed briefly below, with pointers to additional information provided where appropriate.

7.5.1 Libre Services Integration Platform (LSIP)

The Libre Services Integration Platform (LSIP) is a generalized framework for developing Libre Services. All our initial implementations are based on LSIP.

LSIP is a set of tools, policies and conventions for services development and deployment. It provides a uniform, disciplined environment for transformation of software into services, integration, and service aggregation. It allows efficient integration of free software components into coherent services.

LSIP is the key technological component of By* Libre Services. It is the component that makes generalized, large-scale services development practical and efficient. The manageability and scalability of the By* services is largely a result of LSIP. For more information see the LSIP project document in the article titled *Libre Services: Projects for bootstrapping* [**?**].

7.5.2 The By* software selection process

The free software movement is a thriving creative environment, and will continue to produce new and better software components that can be incorporated into By* as additional features and functionality. An important engineering challenge is to select the right free software components for integration into By*. Some of our key software selections, and the rationale for these selections, are provided below.

Base Operating System: Debian GNU/Linux: Our initial Libre Services implementations are based on the Debian distribution of GNU/Linux [**?**]. Debian was founded in 1993, and has emerged as the most practical and reliable distribution for software engineering development. Equally important, Debian fully conforms to the philosophy of the free software movement. The Debian project is guided by the *Debian Social Contract* [**?**], an explicit statement of the philosophy and guiding principles of Debian.

Our selection of Debian GNU/Linux over other available distributions, for example Redhat, is based primarily on its greater degree of freedom, and on the explicit Debian Social Contract.

Mail Transfer Service: Qmail: Our selection of Qmail over alternative packages such as Sendmail, exim etc. is based on the superior scalability, flexibility and robustness of Qmail.

Domain Name System: djbdns: Our selection of djbdns over Bind is based on the superior flexibility of djbdns.

Content Management System (CMS): ZOPE/Plone: Our selection of Plone is based primarily on its completeness and already widespread usage.

7.5.3 Data Center operations

All Data Center operations are based entirely and exclusively on free software. All Data Center infrastructure, including all routers, are Linux based. This uniformity in culture and skillsets allows for a large overlap between engineering integration and Data Center operations.

7.6 Promotion

Marketing in the traditional sense is not an explicit part of our plan for promotion of the Libre Services and By* concepts. Note that these are not proprietary products or services, being launched into a traditional competitive industry environment. Rather these are fundamentally different ways of doing things, without peer or precedent.

In particular, these constructs have a set of inherent growth characteristics, as described in Section 2.3. These growth characteristics are based on a set of forces and dynamics including the inherent merits of the services themselves, a growing societal awareness of the merits over time, and the generative and propagative forces of the free software and Libre Services models. These are not unlike the growth characteristics of the World Wide Web, which grew rapidly without any formal marketing at all. Libre Services and By* will grow for similar reasons.

What this means is that marketing in the conventional sense, based on a persuasion dynamic, is neither appropriate nor necessary. Instead what is required is a process of exposure and articulation of the concept across multiple constituencies and communities. Our promotion plan thus consists of three major components aligned with this:

- Public exposure via widespread distribution of our written materials among all relevant communities
- Talks and presentations at selected industry forums, user groups, conferences, and academic settings
- Active participation on the relevant industry mailing lists

We have a comprehensive set of written assets for the promotion of Libre Services and By*. We intend to distribute our articles and use these assets in a variety of creative ways to communicate our message widely within every relevant industry segment and consituency, including the software engineering community, the Internet engineering community, the business community, the investment community, the academic community, our own users, potential business clients and strategic partners, and the media.

These articles and our other written materials will enable us to conduct a strong, coordinated and sustained campaign to promote the Libre Services and By* models at grass-roots level.

In particular we will subject the two key defining documents—*Libre Services: A non-proprietary model for delivery of Internet Services* [**?**], and *The By* Concept: A Unified Model for Internet Services* [**?**]—to widespread distribution within the technical engineering community. We will do this by distributing these documents on all the relevant mailing lists. We will also target these same documents to key decision makers within the industry.

We expect all of this to generate widespread interest and discussion. The very unconventionality and scale of what we are doing can be expected to generate significant media interest.

7.6.1 Key promotional message

An important consideration is the principal message to be used to promote Libre Services and By*. The principal promotional message will be the ethical superiority of Libre Services as open and free, a communal societal resource, created by society for society. The message to the end user will be the genuine freedoms, privacy, and protection of civil liberties guaranteed by Libre Services. This will be contrasted with the proprietary model, with its fundamental inherent divergence of interests between the providers and the users of the services. This idea will be presented and emphasized consistently in our messages to users and the media.

It should be noted that this is another important respect in which the open and free nature of Libre Services and By* are an asset rather than a liability. The fundamental *raisons d'etre* for the openness of Libre Services is that this provides a tremendously powerful propagation and growth mechanism, and that this provides a set of critically important engineering, business and societal freedoms and benefits.

But it also provides a unique promotional opportunity. The Libre Services story is genuinely different and unlike anything the industry has seen before, providing a ready-make marketing and promotion engine. People will be interested, people will write about it, and people will discuss it. What this amounts to is free press—the best kind of publicity.

7.7 Recruiting

Execution of this business plan requires the participation of talented and experienced people. We can offer a number of incentives to induce the right people to make a commitment to Neda.

Part of the incentive comes from the inherent uniqueness and interest of what we are doing: we are reinventing the Internet Services industry on the basis of a radically new conceptual model. This is a compelling story, and we expect it to be dramatic and dynamic in the execution.

In addition, we have ample equity available to motivate the participation of potential employees, business partners and investors.

Also, Neda is well-connected within the data communications and Internet community. We have maintained contact with a large pool of talented people who have interacted with Neda throughout our history, either as employees, clients, or business partners. These people have first-hand knowledge of Neda and we of them, so a strong basis for a working relationship exists already.

For these reasons we expect little difficulty in securing the enthusiastic and committed participation of talented personnel. A number of candidates for various technical and management roles have already been identified, and are expected to join Neda when appropriate revenues and/or financing are available.

8 Status and Assets

We have created a complete and coherent set of assets required to move this initiative forward. In this section we describe these assets and the current status of each.

Table 5: By* Services Status

Service	Status	Comment
www.ByName.net www.ByName.com	Pre-operational	Major functionality complete and approaching operational deployment. Component of Stage C deployment; in progress.
www.ByNumber.net www.ByNumber.com	Pre-operational	Major functionality complete and approaching operational deployment. Component of Stage C deployment; in progress.
www.ByAlias.net www.ByAlias.com	Limited usage	Major functionality complete. Undergoing usage and usability testing. Component of Stage C deployment; in progress.
www.ByMemory.net www.ByMemory.com	Operational	Operational with all basic features and functionality. Component of Stage C deployment; in progress.
www.BySMB.com	Operational	BySMB functionality is complete and operational, allowing website creation under the custom development model. See By* Instance Examples for active websites. Component of Stage B deployment; complete.
www.ForSMB.com	Operational	ForSMB functionality is complete and operational, allowing website creation under the self-service model. Component of Stage B deployment; complete.
www.ByWhere.net	Prototype	Working prototype complete. See By* Instance Examples for demonstration websites. Component of Stage D deployment; future.
www.ByEvent.net	Concept only	At concept level only, with no functionality yet implemented. Component of Stage E deployment; future.
www.ByTopic.net	Prototype	Working prototype complete. Component of Stage E deployment; future.
www.ByInteraction.net	Concept only	At concept level only, with no functionality yet implemented. Component of Stage D deployment; future.
www.BySource.org	Limited usage	Basic functionality complete. Undergoing usage and usability testing.
www.ByBinary.org	Limited usage	Basic functionality complete. Undergoing usage and usability testing.

8.1 Conceptual definition

We have done all the necessary intellectual work to create a complete conceptual blueprint for this initiative. We have created the following written assets to articulate the concept and enable participation by others:

- *Libre Services: A non-proprietary model for delivery of Internet Services* [**?**]. This paper provides a complete description of the Libre Services concept.
- *The By* Concept: A Unified Model for Internet Services* [**?**]. This paper provides a complete description of the By* concept and family of services.

- *An Open Business Plan: The By* Family of Libre Services*. The Business Plan (this document) provides a complete description of the By* business opportunity.

Together these three documents provide a complete description of all critical elements of this initiative. They are all complete and available in multiple file formats.

8.2 By* services

The following is the current status of all By* services at the time of writing. For the latest status on each service refer directly to the website for that service. All services have placeholder websites in place.

- Much of the conceptual and architectural design work for the By* family is complete.
- ByMemory is largely complete, including basic general functionality, and ready for immediate account creation and usage by anyone. It is already populated with a number of active accounts, providing tangible demonstration of the capabilities of the Libre Services and By* concepts.
- BySMB/ForSMB is sufficiently complete in terms of features and capabilities to support the custom development model of service creation (see Section 6.5, and under this model we have already created BySMB/ForSMB services for a number of clients.

  Creation of the facilities and features to enable the fully automated self-service model is under active development. This is slated for completion next, and is expected to become available in 2008.
- A complete set of basic ByName features and capabilities have been implemented. These are already adequate for initial deployment of ByName as a live service. The remaining work is the creation of facilities to enable automated account generation. This is under active development, and the ByName service is expected to be deployed in late 2008.
- ByNumber and ByAlias are largely a functional subset of ByName, and their status generally tracks that of ByName. These are also under active development, and slated for deployment in late 2008.
- ByWhere, ByEvent, ByTopic remain at concept level only, with no actual functionality implemented.
- ByInteraction remains at concept level only, with no actual functionality implemented. This will be the last of the By* family to undergo development and become available.
- The By* user environments remain at concept level only, with no actual functionality implemented.
- Placeholder websites. All By* services have placeholder websites in place, populated with basic service information.
- By-Star.net. In addition to the individual By* service websites we have also established a general informational website at:
  http://www.by-star.net

The status of all By* services is summarized in Table 5. The Status column indicates the following status conditions, listed in order of development progression:

1. **Concept only**. The service remains at concept level only, with no functionality implemented.
2. **Prototype**. Initial design and development is complete, and a prototype services exists for demonstration and proof-of-concept.
3. **Limited usage**. The prototype service is in limited usage for validation and testing purposes.
4. **Pre-operational**. The service is undergoing active development in readiness for operational deployment.
5. **Operational**. The service is fully operational. This means the service is always running, available for immediate usage by anyone, has an installed base of real users, and is generating revenues.

8.3 Software distribution centers

We have established the following software distribution sites to provide the resources required to reproduce the By* services:

- **BySource.org**. The distribution center for By* software in source form.
- **ByBinary.org** . The distribution center for By* software in binary form.

Both of these websites provide initial basic functionality, and are currently undergoing validation and testing.

8.4 Business infrastructure

The following business assets are in place to support execution of this Business Plan:

- **Processes and discipline**. We have established a complete set of engineering and business methodologies, processes and discipline to support our operations. These are more than adequate to support on-going operations and revenue generation.
- **Data Center**. The Data Center is state-of-the-art, complete and fully functional.
- **www.neda.com**. We have created a very extensive and comprehensive website to support every aspect of our company operations.
- **Equity**. Thus far Neda is entirely self-financed and almost entirely employee-owned. Ample equity is available as a vehicle for collaboration, partnership, and employee incentive.

8.5 Execution and revenue status

We have created a complete conceptual blueprint, framework for participation, and execution plan. We have also created sufficient technical and business assets to move forward with Phase I of our execution plan. The initial stages of Phase I have begun, and we are already generating early Phase I revenues. These revenues are small, but they are recurring revenues and growing.

We are now at a point where we are ready to subject this initiative to wide exposure, accommodate participation by others, and begin building increased revenues. From here the next major steps are continued services deployment, widespread promotion of the concept, and revenue-building.

All the basic structures and assets required to execute our plans are in place. We are now ready for immediate, rapid implementation and revenue-building.

9 The Wireless Component

Libre Services and By* include two important wireless components: WhiteBerry mobile messaging, and Libre Community WiFi.

9.1 WhiteBerry mobile messaging

WhiteBerry is an open mobile messaging solution. We initially completed development of the WhiteBerry model in 2001, and documented it fully in the form of a white paper titled *Operation WhiteBerry: Creation of a Truly Open Mobile Messaging Solution* [**?**][**?**].

Though we created a complete conceptual blueprint for deployment and promotion of the WhiteBerry model, we did not subject this article to wide distribution, nor did we execute our implementation plan.

This is because widespread industry implementation of the WhiteBerry solution requires open access to the wireless networks, and in 2001 the wireless network landscape remained very much a walled garden, in which the network providers control and limit network access. Five years later the wireless landscape continues to be a walled garden. It will not be possible for large-scale industry-wide deployment of WhiteBerry to take place until the wireless network access model shifts to an open paradigm.

But WhiteBerry remains fully viable as an open model for mobile messaging, and we believe represents the eventual future of the mobile messaging industry. Sooner or later the closed and fragmented industry of today will give way to an open model allowing general industry-wide interoperability. Whenever the wireless network industry evolves sufficiently to allow this to happen, WhiteBerry is ready to step immediately into its intended role.

In the meantime our own strategic vision has continued to evolve. In 2001 we viewed WhiteBerry as a tactical entry point into the Internet Services market. In 2006 we are now targetting the Internet Services industry directly, and WhiteBerry has been subsumed as just a single functional capability within the By* family.

The Business Plan we wrote in Q4 2001 was WhiteBerry-centric, as an entry point into the Libre Services industry. The current version of the Business Plan is Libre Services-centric, now including WhiteBerry as a single component.

At this point WhiteBerry is a dormant asset, subsumed under the broader By* deployment, and we have no explicit execution plan or schedule for deployment of WhiteBerry. WhiteBerry will be executed as a business opportunity only if this is occasioned by appropriate industry conditions, and the availability of appropriate external financing. Under the self-financed scenario, we do not expect to promote WhiteBerry as a general industry-wide solution.

But it should be noted that WhiteBerry continues to represent a gigantic business opportunity in its own right. For complete details, and for insight into how the 2001 WhiteBerry initiative has evolved into the current Libre Services initiative, refer to the Q4 2001 Business Plan, available at:
http://www.neda.com/StrategicVision/BusinessPlan

9.1.1 WhiteBerry revenues

The final column of Table 4 includes two additional components of the overall By* deployment: deployment of services in non-By* settings (Libre Engines), and deployment of the WhiteBerry mobile messaging solution.

In the context of the By* deployment, WhiteBerry is something of a wild card. It is largely independent of the other By* components, and can be executed at any time, whenever industry conditions are right for this. It also represents a gigantic business opportunity in its own right.

The WhiteBerry business model and revenue streams remain fully valid and viable within the more general By* context. The WhiteBerry revenue streams are discussed in detail in the Q4 2001, WhiteBerry-centric business plan [**?**]. Here we present a brief summary only. As shown in Table 4, the major revenue opportunities are:

- **Software licensing**. We have created a comprehensive set of WhiteBerry software products for all major segments of the mobile messaging industry. All these software products are dual-licensed: they are available as free, open-source software under the GPL (General Public License), and they are also available under Neda commercial licenses for usage in commercial contexts.

  The software licensing revenue stream consists of sales of these commercial licenses into the extremely large mobile messaging market, including ISPs and wireless data carriers, intranet messaging system operators, end-user device manufacturers, systems integrators, and personal desktop messaging users.

- **Software and deployment consulting**. There is also a very significant consulting revenue stream associated with WhiteBerry. This consists of providing consulting services to clients who are deploying WhiteBerry throughout the mobile messaging industry. Such clients include device manufacturers, wireless modem manufacturers, wireless network operators, message center operators, and systems integrators. Consulting revenues also include custom software development work for clients who require specific software portations, enhancements or customizations.

  As the architects and developers of the WhiteBerry solution, we are uniquely qualified to provided these services.

- **Value-added service fees**. WhiteBerry mobile messaging is provided as a functional component of the BySMB/ForSMB and By<*Individual*> (except ByMemory) services. This can readily be provided to users as a value-added feature for an additional monthly service charge, thus creating a recurring hosting/subscriber service fee revenue stream.

  In the case of By<*Individual*>.com, WhiteBerry can be provided as a feature carrying additional advertising exposure, thus creating a recurring advertising revenue stream.

9.1.2 WhiteBerry assets

All resources required to support the WhiteBerry mobile messaging solution are complete and available. These include:

- ***Operation WhiteBerry: Creation of a Truly Open Mobile Messaging Solution*** [**?**]. This industry white paper provides a complete description of the WhiteBerry solution.
- **MailMeAnywhere.org**. MailMeAnywhere is the WhiteBerry software distribution center. MailMeAnywhere also hosts a public forum for the collective development and enhancement of the LEAP protocol engines and integration tools.
- **LeapForum.org**. The Leap Forum is the central information and resource center for the LEAP family of protocols.
- **ESRO.org**. ESRO.org is a maintenance organization and development forum for the ESRO protocol.
- **EMSD.org**. EMSD.org is a maintenance organization and development forum for the EMSD protocol.

All the above websites are fully operational. For complete details see the Q4 2001, WhiteBerry-centric business plan [**?**].

9.2 Libre Community WiFi

A second wireless component of Libre Services is Libre Community WiFi.

For details about Libre Community WiFi refer to the related project document in the article titled *Libre Services: Projects for bootstrapping* [**?**].

10 Competitive Advantages

In the traditional proprietary business model, a key component of sustainable advantage is ownership of assets via intellectual property mechanisms such as patents and copyright. But our business model is entirely non-proprietary, without these formal components of asset ownership. Instead, our competitive advantages are these:

- **Unique leadership role**. We are the originators and architects of Libre Services and By*, and we are playing a unique leadership role in their industry-wide promotion and deployment. This leadership role provides Neda with incomparable name recognition status and mindshare within the industry. At the outset, this mindshare will far exceed that of any other Libre Services provider.
- **Conceptual lead time**. This initiative is complex and conceptually challenging, but we have a clear and complete big-picture understanding of it in every respect. This amounts to a major conceptual lead time over any potential competitor.

- **Fitness to execute**. We are technically and strategically fit to execute this plan. On the technical side we have all the necessary skills, knowledge and experience, and we are fully in tune with the free software culture. On the strategic side we are a small team, internally coherent and fully gelled, with the agility to respond rapidly to changing circumstances and opportunities.
- **Execution synergy**. Based on our big-picture understanding we are executing on all fronts necessary to drive this forward. We have thought through every aspect of this initiative, and created a fully coordinated execution blueprint. This creates a powerful synergy among the mutually reinforcing components of our execution plans. Anyone else will at best be doing only a portion of what we are doing.
- **First mover advantage**. We have a decisive first mover advantage within what is essentially a new industry.
- **Infrastructure in place**. We have built a sophisticated technical and business infrastructure, and have done so with near zero debt. This infrastructure is large, scalable and complete enough to support on-going execution of our plans and rapid increase in revenues. We are already generating small but growing revenues based on this infrastructure.

For all these reasons Neda is uniquely positioned to profit from the By* initiative.

11 Risks and Competition

Despite its large upside, this venture is not without risk. The following is a discussion of the possible associated risk factors.

11.1 Non-risk: engineering execution

On the engineering side, we are fully equipped and capable to execute this plan. We know exactly what to do and how to do it. We have all the understanding and expertise necessary to build all the required engineering components. We also have a complete engineering infrastructure and toolset necessary to move forward with this.

The remaining requirement to move forward rapidly with this is the right engineering personnel to do the engineering work. We are confident we can recruit the right people when revenues and/or financing permit. We are well connected, have many existing professional relationships, and understand the staffing requirements very well. Thus recruiting and execution on the engineering side is extremely well characterized, and a very low risk element of our execution plan.

Note that the technical and infrastructure requirements to becoming an Internet service provider are very demanding. This requires a number of highly specialized skillsets, discipline, and a major initial investment. It requires building major physical assets in the form of a Data Center, and major intellectual assets in the form of processes and discipline. But we have accomplished all of this entirely on the basis of our own in-house abilities, and with near zero debt. We are now fully capable of operating and delivering all By* services at very large scale.

11.2 Major risk: business execution

The fundamental risk associated with this enterprise is inability to execute on the business operations side. The major recruiting and execution risks reside in the areas of management, business development, sales, and operations. Here recruiting and team-building will be significantly more challenging.

The scope of the plan is very large. In the case of a fully-financed scenario, this calls for a rapid growth rate on several fronts. This in turn calls for the creation of a highly sophisticated business structure, and for the management of a rapid and sustained scaling up of operations.

These are standard challenges in the high tech arena, and the business tools and methodologies exist to address them. However, success in this depends upon having the right people for the task. To accomplish our goals, we will need a well-coordinated team of experienced management and business operations personnel.

We have stated that we do not anticipate difficulty in recruiting talented people. But another question is whether we will be able to recruit the necessary people sufficiently quickly to meet our goals. Even with full financing and a skilled core management team, it may not be possible to do the necessary recruiting and team-building fast enough to sustain our growth rate.

However, the severity of this risk is greatly mitigated by the fact that, as the initial proponents of a radical new engineering and business model, time is inherently on our side. Industry conditions are right for the execution of this initiative today, and will remain so for some considerable time. The prevailing industry ideology remains fully rooted in the proprietary services model, and despite anything we might do this will not change for many years.

Thus the window of opportunity for this initiative will remain open for some time to come, and competitive pressure will not come on Neda because of changing industry conditions. Rather, pressure will come on Neda because of competition resulting from our own success. However, this pressure will not arise until our own execution plans are well under way. Therefore we expect to have an ample window of opportunity to do the necessary recruiting and scale up the necessary business structures before serious competitive pressures arise.

11.3 Competing Internet services

There is nothing to prevent another company from competing directly with Neda on the basis of Libre Internet Services. Indeed, it is a defining characteristic of Libre Services that such competition must inevitably arise.

Our sustainable advantages in the face of this competition are those described previously: our leadership role, name recognition, conceptual lead time, execution synergy, first mover advantage, and fitness to move faster and with greater certainty than the competition.

In the long term, it is the first mover advantage that is the most decisive. Since Internet Services is an increasing returns business, the company that first begins to dominate this business will become increasingly dominant as time goes on. But the benefit of the first mover advantage depends on the ability of the first mover to capitalize on it quickly. If the first mover is unable to execute smoothly and rapidly, or otherwise blunders, this advantage can be lost. And there is no other advantage that Neda currently enjoys, that cannot eventually be eroded away by a competing company.

Therefore an inability to execute, coupled with swift, intelligent, aggressive and well-executed competition, can prove fatal to Neda.

11.4 Timing

We have created a blueprint for a transformation of the Internet Services industry into something much more powerful than its incarnation of today. We believe our thinking and vision are well ahead of the industry at large, and it will take time for the prevailing ideas and attitudes of the industry to catch up with us.

This is why we claim that time is on our side, and this is why we believe that we can continue to move forward with our plans on a self-financed basis.

But it must be acknowledged that we could be quite wrong about this, and we could somehow be acting too soon or too late. One could argue that the proprietary services model is too entrenched for any alternative services model to gain any credibility and traction, so for this reason the Libre Services/By* initiative is too late.

On the other hand one could argue that the Libre Services and By* concepts are too far ahead of their time, and societal thinking remains rooted in the mindset and conventions of ownership-based material constructs. From this point of view the Libre Services/By* initiative is too early.

Our response to these conjectures is that we stand by our current assessment. We have a deep understanding of the Internet Services industry, and we continue to pay close attention to its trends and voices. On this basis, we maintain that our assessment of the current status of the industry, and our predictions for its future development, are correct.

While we understand the basis for these conjectures, we believe they are without merit. While the proprietary services model is the prevailing reality today, it is not sacrosanct. It is no more permanent than any other institution, and no less vulnerable to displacement by a more powerful set of ideas.

And while our ideas are radically new and groundbreaking, the necessary precedents and intellectual preparedness exists for them to be understood and taken seriously.

12 The Company

Neda Communications, Inc. is a well-established company with a proven track record of technical proficiency and profitability. Neda was founded in 1991, and between 1991 and 1997 operated as a successful data communications consulting company, with an average income from 1993 to 1997 of over $1 million annually. To date Neda has received no external financing.

Neda has been actively involved in the wireless data industry since 1992. From 1992 through 1994 Neda acted as the lead designer and primary architect of the Cellular Digital Packet Data (CDPD) System Specifications. From 1994 through early 1997, Neda designed and implemented much of AT&T Wireless Services mobile messaging prototype software and systems, for use over Narrowband PCS and CDPD wireless networks.

In 1997, Neda substantially curtailed its consulting activities, and began actively developing the

WhiteBerry mobile messaging solution. Between 1997 and 2001, Neda developed a complete set of WhiteBerry assets, as described in the Q4 2001, WhiteBerry-centric business plan.

In 1999 Neda was re-incorporated as a new legal entity, appropriately structured to undergo external financing.

In 2001, Neda made a significant change in strategic focus, shifting from WhiteBerry as a tactical entry point into the Internet Services industry, to a direct strategic targetting of this industry based on the Libre Services and By* initiatives. From 2001 until the present, Neda has created the assets needed to launch these initiatives and profit from their success.

For the past five years our vision and focus has been the creation of the assets required to execute this Business Plan.

We have been involved in the Internet since the very beginning, and consider ourselves long-time students of the medium. As an example of our early vision, note that our Neda domain was registered before that of Microsoft:

```
$ whois neda.com                 $ whois microsoft.com
Registrant:                      Registrant:
   Neda Communications, Inc.        Microsoft Corporation
   (NEDA-DOM)                       (MICROSOFT-DOM)
3610 164th Place S.E.            One Microsoft Way
Bellevue, WA 98008, US           Redmond, WA 98052, US
Domain Name: NEDA.COM            Domain Name: MICROSOFT.COM
Record Created On 20-Mar-91      Record Created On 02-May-91
```

We also established the ByName and other By* domains as far back as 1998, long before any of the recent proprietary offerings in this space:

```
$ whois byname.net
Registrant:
   By Name Services
   C/O Neda Communications, Inc.
   3610 164th Place SE
   Bellevue, WA 98008, US
   Domain Name: BYNAME.NET
   Record created on 21-Aug-1998
```

We also established our ARIN registration as far back as 1993:

```
$ whois -h whois.arin.net 198.62.92.0
OrgName:    NEDA COMMUNICATIONS, INC.
OrgID:      NEDAC
Address:    3610 164th Place SE
City:       BELLEVUE
StateProv:  WA
```

```
PostalCode: 98008
Country:    US
NetRange:   198.62.92.0 - 198.62.92.255
RegDate:    1993-02-23
```

For complete details about Neda see our website at: www.neda.com

12.1 The people

Neda has a core team of technical and management personnel with extensive experience in the wireless data communications field, and a track record of technical accomplishment and business success. Among the team there are relationships going back almost twenty years, reflecting a long history of productive cooperation. Every member of the team fully understands and is committed to the execution of this business plan.

The team is led by Mohsen Banan, who has been running Neda since 1991. Mohsen was the primary architect of the network structure of the CDPD specification. He is also the intellectual originator and primary architect of the WhiteBerry mobile messaging solution, the Libre Services model, and the By* family of Internet services.

Other team members have a similarly high level of technical and business expertise. Complete biographical data for each team member is available on the Neda website at:
http://www.neda.com/AboutNeda/CompanyProfile/

13 Financing

We have built all this and reached this point on our own, without any external participation or financing. With or without external financing, we will continue to execute our plans. Everything we have built thus far has been accomplished on the basis of on-going consulting and colocation revenues, and we will continue to move forward on this basis. We will continue to develop and deploy the By* services and build the various revenue streams, according to the execution plan described in Section 7.

But this enterprise can benefit tremendously from investment participation. We have created an enormous profit-making opportunity. With the right level of financing we can greatly expedite and accelerate our execution schedule, and take full and immediate advantage of this opportunity.

Our optimal financing schedule for this purpose is $2M initially, followed nine months later by a second financing round of $15M. Under this financing schedule the initial $2M will be used to expedite execution of Phase I. The second round of $15M will be used to execute Phase II immediately on conclusion of Phase I.

But our execution strategy is by nature very flexible. We are currently operating in a self-financed mode, and can continue in this mode indefinitely. However, we can readily expedite our execution schedule according to a wide range of financing amounts and timing. We have all the necessary technical expertise, managerial experience, and business infrastructure required to execute Phase I. But a relatively small amount of financing can accelerate Phase I significantly. Thus we can currently accommodate external financing in any amount from $500k to $2M.

This is an unconventional financing model, but is an appropriate one for this plan. To accommodate this model, we have established a flexible framework for investment participation. This framework allows investors to participate to the extent and timing of their choosing.

The above financing figures and schedule will remain valid until we next update this business plan.

13.1 An open investment model

The By* initiative can benefit greatly from investment, and we have established an appropriate framework for this purpose.

However, we are not following the conventional model for early-stage private investment. The conventional model permits excessive control and exploitation by the venture capital community, to the frequent detriment of the company being invested in. A detailed discussion of the deficiencies of the conventional model, and our reasons for rejecting it, is provided in our Investment Philosophy at:
http://www.neda.com/StrategicVision/Participating/

Instead, we are taking an approach which is open, egalitarian, and permits participation by any interested and qualified investor. Under this open model we are publishing on our website everything necessary for a potential investor to make an initial evaluation of Neda as an investment opportunity. This includes our Open Business Plan and all its supporting documents. Anyone can review these materials and decide for themselves whether to participate or not. A complete description of our Open Investment Model is provided at:
http://www.neda.com/StrategicVision/Participating/

As part of our Open Investment Model we have assembled some resources to assist potential investors in conducting due diligence. These are available on the Neda website at:
http://www.neda.com/StrategicVision/Participating/

13.2 Use of proceeds

Financing proceeds will be used to:

- Execute a significantly accelerated ramping up of personnel.
- As described in Section 7.4, expedite and accelerate our execution strategy.
- Accelerate the execution plan by carrying out development of the various Phase I technical components and revenue streams in parallel, rather than in sequence.
- Significantly shift emphasis away from the early-stage, lower revenue sources, and towards the later-stage high-revenue sources. For example, development of the advertising revenue model is not something we will do for some time under the boostrap model. If fully funded, however, we will target this for rapid development following the second financing round.
- Execute a focussed and orchestrated promotion of the By* services.
- Put in place a highly scalable business structure.

13.3 Financial projections

A conventional Business Plan, based on a bounded product or service, traditionally includes a set of *pro forma* financial projections. Also traditionally, the projections take the form of a wildly inventive exponential, to be taken seriously by no one.

But these traditions are not right for this Business Plan. First, we are not talking about a product or a service, we are talking about an entire industry. And not just any industry: the Internet Services industry. It's big, and with or without fictional *pro formas*, we all know it. Thus the creation of fanciful projections to confirm that, indeed, the By* services have extremely large profit potential is an empty exercise.

And in any case, the actual numerical projections have limited meaning. With or without projections, it is clear that the Internet Services industry and the By* business opportunity are huge, and quantitative projections based on a set of arbitrary assumptions do little to clarify this—they merely present an illusion of clarification.

Also, this entire initiative is about genuine reality, value and integrity. Imaginative financial projections are a form of persuasion. But in this initiative no persuasion, and no spin, is required, and is at odds with the basic spirit of this thing.

Finally, our primary reasons for writing this plan are for the sake of internal clarity and discipline, and to articulate the plan to a broad audience. The standard *pro formas* are written for a narrow VC (Venture Capital) audience, who expect and demand the jumping of this particular hoop. But the institutional VC audience is just a single constituency among many that form the true audience for this plan. Thus the narrow VC community, along with their expectations, are here marginalized.

When it comes to investment, we are looking for the right kind of investor. Among other things, this means an investor who can quickly grasp what matters and what doesn't. It means an investor who understands the potential of By* without needing a fictional spreadsheet. In particular, it means an investor who understands that there is a time when financial projections really do matter, and there is a time when they do not. And when they do matter, it means an investor who demands *real* projections, based on meaningful and defensible assumptions.

When the time is right, we will produce proper financial projections for the right audience. In the meantime, we refer readers to the Q4 2001 Business Plan, which does include a set of projections for the Internet Services industry.

And in the meantime, we can offer this projection: the profit potential is big.

13.4 ROI and exit

The ROI is expected to be extremely large.

Exit is by any of the conventional mechanisms.

14 An Invitation to Participate

We are doing something big and ambitious: we are reinventing the Internet. In many ways we consider the Internet of today, dramatic though its arrival has been, to have been a false start. Based on what we now know, we are proposing to do the job properly.

But there is what we can do on our own, and there is what we cannot. What we can do is establish a conceptual blueprint for this initiative, and create a starting-point set of assets and services for participation and growth. This we have done. What we can also do is continue to build and deploy the By* services as described in our execution plan. This we will do.

But what we cannot do is make this big. And unless it's big, it's not very interesting. But if it is big, then it gets very interesting indeed. But By* can only get big as a result of buy-in and participation by others. Without this, Libre Services and By* will remain no more than interesting historical footnotes in the evolution of the Internet.

Our work so far has been largely conceptual and infrastructural. The next major phase of work consists of growing the By* services into something big and real. And for this we need people, we need business partners, and we need investment.

In creating this opportunity, in building the necessary assets, in establishing a framework for participation, and in documenting everything fully, we have fulfilled our initial responsibilities. We now invite others to join us. We invite and encourage active participation throughout the engineering, business and investment communities.

This is an exciting enterprise, requiring hard work and risk. But the rewards for those who participate, tangible and intangible, will be very great.