



# Technical White Paper

## Enterprise 2.0: A Roadmap

### Social Networking in your Organization

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## Abstract

This white paper discusses the various aspects of Enterprise 2.0, including its various connotations, elements of the Enterprise 2.0 strategy, the technology underpinnings for its effective implementation, etc.

## About the author

Ananthkrishnan J. is the Head - MOSS Competency at Sonata Software Ltd. He currently spends his time conceptualizing usage models based on Enterprise 2.0 and building IP for implementing the same on MOSS 2007. He concedes that most of the conceptualization will be radically altered based on real world experiences but hopes that certain concepts will change some aspects of the real world behaviour as well.

Ananthkrishnan brings with him more than 11 years of IT experience, which includes building products for the telecom domain, and delivering on Enterprise Application Integration (EAI) and Web solutions for Sonata software.

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## 1. Introduction

Enterprise 2.0 (E2.0) has different connotations and this white paper aims to present a unified view of those varied connotations. The concept of E2.0 is based on the premise of leveraging Web 2.0 tools and more importantly, the interaction models based on Web 2.0 as they hold the key to understanding the benefits of E2.0.

## 2. Conceptual view: Enterprise 2.0

The enterprise now faces forces of paradigm shifts that make the current modes of structured organizations rigid and brittle, and which do not provide an environment to help people innovate or empower them to take decisions. These forces are:

- **Global market:** Organizations are global and more importantly, the economies are also global. The earlier mode of global organizations driven by a global strategy, based on a specific market model (US/European model), no longer holds good. The market consumers are now more evenly spread out and need localized strategies. Enterprises need people on the ground and in the line to have access to the required information to make decisions. An important outcome is the importance of sharing information and decision-making processes in terms of what worked and what didn't to have an organisation that is agile and learning from its experience ([http://en.wikipedia.org/wiki/Learning\\_organization](http://en.wikipedia.org/wiki/Learning_organization)).
- **Global teams:** Specialization means that expertise is scattered; for implementing an idea/project, all the expertise needs to come together. The model of a formal organizational team in a top-down model -- a manager who forms the team and drives its behaviour -- is a cumbersome one. If a set of individuals are given converging objectives and they have to find and utilize all the resources for achieving those objectives, then the organisation has to provide a mechanism for these individuals to find the resources and communicate effectively with each other.
- **Unstructured situations:** The current organizations and systems have defined ways for solving structured problems/issues. The need of the hour is to respond quickly and collaborate effectively in unstructured situations.
- **Empowered workers:** Today's workforce uses Web 2.0 technologies in their personal space and this silent revolution has given people the confidence to contribute thoughts, experiences, etc. -- essentially to "Share." Now the Information Workers (IW) see opportunities to leverage these technologies in the workplace as they know that they can be in as much control of information and decision-making in their workplace as in their personal life. Current organizational policies restrict the usage of these technologies, holding back the "democratization" of the enterprise.

***Enterprise 2.0 uses the innovation and collaboration models based on Web 2.0, tries to interpret them in the Enterprise context and to create a model addressing the issues faced by the enterprise.***

Enterprise 2.0 can be defined as a concept that empowers employees to communicate and process information in a manner that is most effective and driven by social networking and SOA software.

The elements of the Enterprise 2.0 strategy are:

- **Business Views:** It involves creating views that display information and content relevant to the information workers. These views can be created from multiple systems – these are mashups in the enterprise.
- **SLATES Framework:** It defines the content authoring and access modes. As defined by Prof. McAfee, SLATES stands for:
  - S: Search
  - L: Linking
  - A: Authoring (structured and unstructured)
  - T: Tagging
  - E: Extensions
  - S: Signals

This definition of SLATES provides a conceptual framework for content consumption in an enterprise.

### 3. Underpinning of Enterprise 2.0

Enterprise 2.0, to be effective in the enterprise scenario, needs some technology underpinnings for its implementation. These technology underpinnings are:

- SOA (Service-Orientated Architecture).
- Structured data management i.e. enterprise metadata for content and people.
- Multi-mode interaction/collaboration.
- Organizational will/culture to empower the employees and information workers.

#### 3.1. SOA infrastructure:

The content and data in an enterprise are stored in different enterprise applications, intranets and file servers. Enterprise 2.0 requires that Knowledge Workers have seamless, transparent access to this information, so that they can create mashups as well as search and access the data/content from across the enterprise. The intranet portal is treated as an access point for enterprise data/content and necessary tools are provided to Knowledge Workers to choose the preferred way of viewing and adding data/content.

However, for accessing data outside the intranet portal, an SOA infrastructure is required. There are two modes of data access:

- **Web Services:** Knowledge Workers can use the .NET Web Services Toolkit to access enterprise applications outside the intranet portal. It is, of course, required that the enterprise application should expose its data and services through Web services interface.

- **Non-Web Services:** Each enterprise has a set of applications, which is not Web service-enabled due to reasons like complexity, low priority in the SOA roadmap and earlier versions. This is a classic EAI problem that can be addressed using an EAI tool.

***Implementation Tips:***

- This is an opportunity to improve RoI on the existing SOA/EAI infrastructure. If SOA is not implemented but is being planned for Enterprise 2.0, intranet needs to be factored in.
- The EAI infrastructure should be re-evaluated in terms of extending it to Enterprise 2.0. This can be used as an opportunity to revamp the EAI infrastructure.

### **3.2. Data Management:**

#### **3.2.1. Taxonomy: structuring content on the basis of organizational rules**

While portals enable storage of information, a key element for its storage and retrieval is the design of taxonomy and the metadata model. The metadata is required to access information in an organized way, either through the navigation model or conducting a search using the metadata model; this is applicable to content as well as people. A well-designed taxonomy facilitates reasonably intuitive navigation for the Knowledge Workers to access relevant content.

#### **3.2.2. Folksonomy: content classification on the basis of end-user perceived value**

The content based on informal content authoring models, like discussion boards, needs to have evolved, user-driven metadata. User-defined classification/metadata for this type of content (folksonomy) is an important facet of the democratization of enterprise knowledge. User-defined classification (popularly called Tagging) provides a dynamically evolving mode of content classification.

Enterprise 2.0 Content Creation Models like blogs, wikis, etc. help capture the knowledge that otherwise would be lost in e-mails, verbal exchanges or would not even be expressed. This builds the organizational memory.

Folksonomy essentially helps Knowledge Workers classify the organizational memory captured through user-driven Content Creation Models.

#### **3.2.3. Using the metadata**

The above two sub-sections (3.2.1 and 3.2.2) may be in conflict with each other in terms of metadata. However, to resolve that:

- Identify the areas of the intranet that need metadata compulsorily; these will be the areas where formal documents like policy documents, regulatory artifacts, etc. are stored. In these areas, the taxonomy-based model should be enforced.
- In other areas of the intranet, where Knowledge Workers drive the content, let folksonomy evolve. However, designing the scope of folksonomy and creating certain tags may not make sense to an organisation-wide audience. E.g. design engineers in the

R&D department would evolve/use the jargon specific to them, which would show up in folksonomy, but it may not make sense to the rest of the organisation.

**Implementation Tips:**

- Use intranet based on Enterprise 2.0 as a guide to the Enterprise Metadata Model. Ensure that the information architects track the intranet usage, especially folksonomy.
- Avoid creating rigid metadata as far as possible.

### 3.3. Multi-mode interaction/collaboration

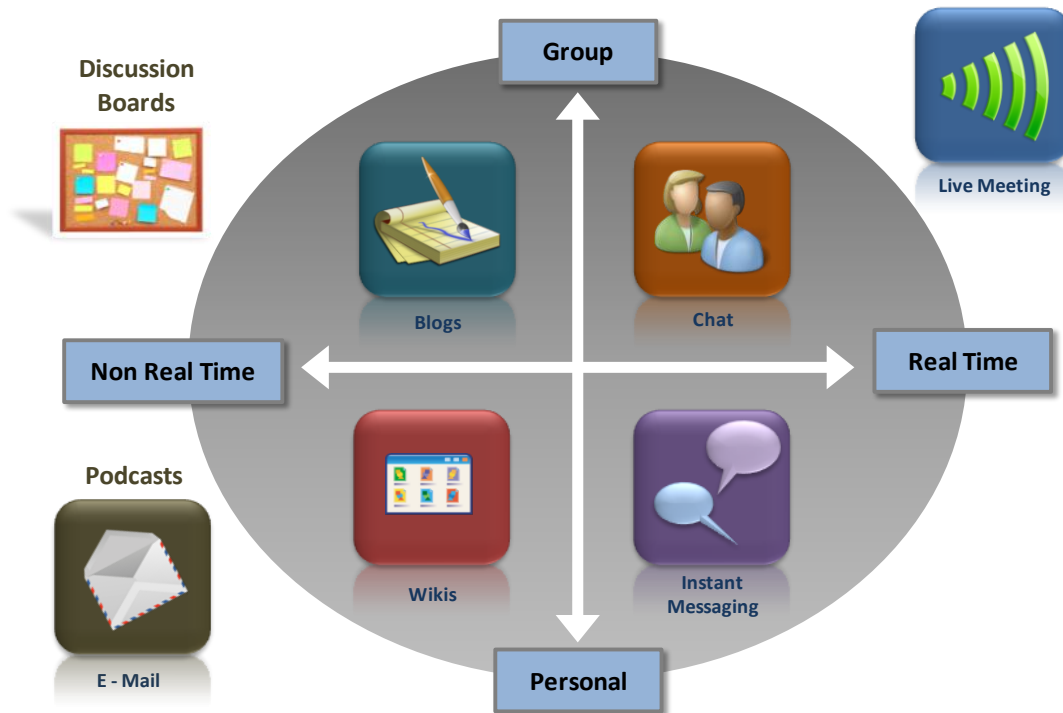
A study by *Forrester* shows that e-mail is the most widely used form of information sharing/collaboration. An e-mail, while an easy mode of transferring information/content, is not feasible to be used as an effective collaboration tool due to:

- Multiple versions of the content once many people start using it.
- Search and retrieval of content based on metadata is time-consuming as e-mails may not have content-related metadata.
- If many people try to collaborate, keeping a track of contributions quickly becomes unmanageable.

That is why an intranet portal must have multiple modes of collaboration, which can be enabled on the basis of the nature of collaboration/interaction like:

- Group communication in real time:
  - Desktop-sharing tools like WebEx or Live Meeting
  - Group Chat
- One-on-one communication in real time:
  - Chat
- Asynchronous group communication:
  - Discussion board
  - Wikis
  - E-mail
  - Blogs
  - Documents
- Asynchronous communication with a specific person
  - E-mail

Fig 1

**Implementation Tips:**

- A good way to discourage e-mail-based content sharing is to introduce policies that discourage it (limits on document upload, etc.).
- Put the necessary tools in place and let the Knowledge Workers evolve the collaboration mechanisms (this topic will be discussed in detail in the later sections of this white paper).

**4. Enterprise 2.0 - Explained****4.1. Mashups**

Mashups are Web applications that combine data from more than one source into a single integrated tool, thereby creating a new and distinct service that was not originally provided by either source (Source: Wikipedia).

Web 2.0 is about user-driven content but Enterprise 2.0 is about Knowledge Workers using either user-driven or application-driven content in a business context, what I more pertinently call as Business Views. Business data is available in multiple sources in the enterprise application landscape. Consider a scenario where a research analyst is tracking the xx sector. The data sources available are the:

- Sales figures
- Employment rates

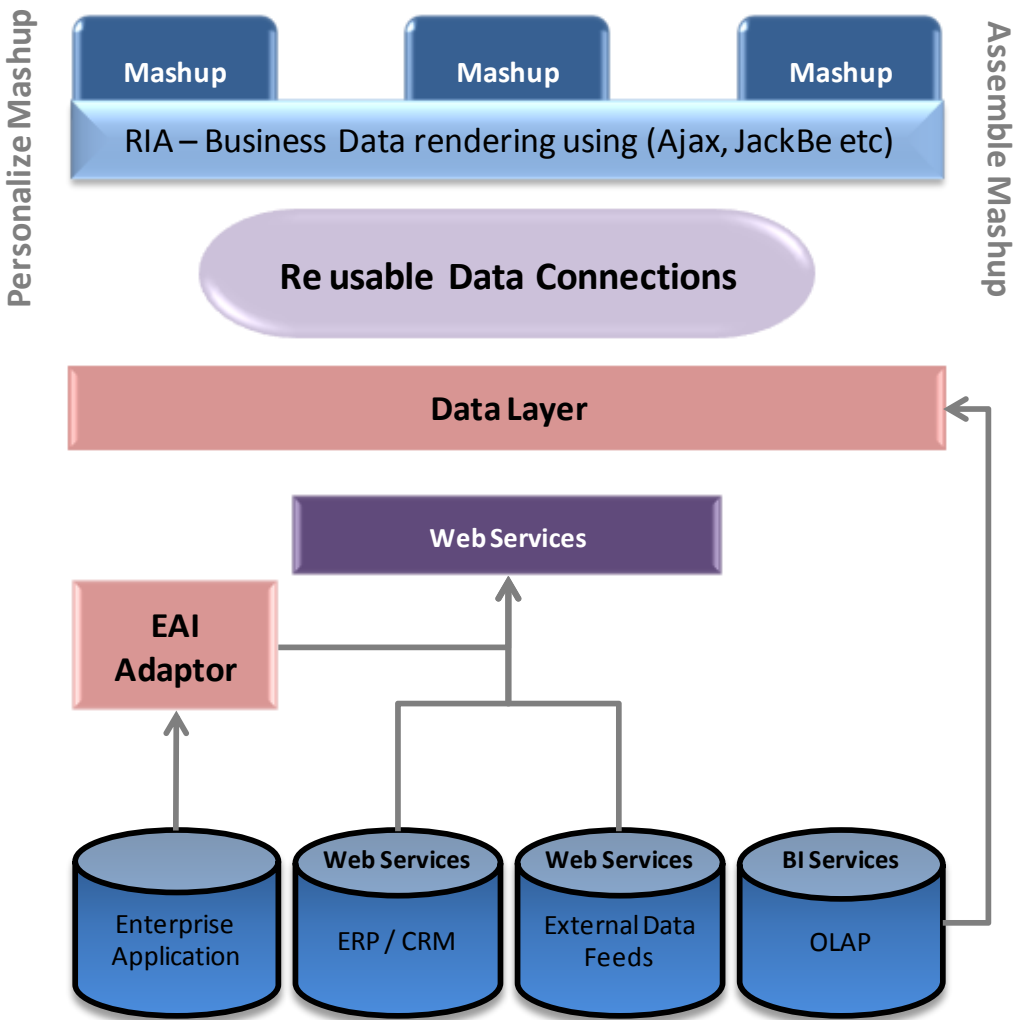
- News on the state of the economy
- Product announcements

The juxtaposition of these data sources into a view creates a contextual application -- Business View -- for the analyst. A business view provides all the data required for the Information Worker to make a real time, data-driven informed decision.

The value of mashups is in providing a business view based on aggregation of information sources within as well as outside an enterprise. The data required for mashups is available in different enterprise applications and can be sourced using different integration mechanisms. However, these integration mechanisms become an expensive proposition, considering that building and maintaining them requires a lot of time and effort.

A key enabler for mashups is the availability of SOA infrastructure or at least, EAI infrastructure.

Fig 2



#### 4.1.1. Information processing –Mashups

Mashups in the enterprise context offer business views that are personalized for an Information Worker. The raison d'être for mashups is that there are numerous applications that are to be used by very few users (sometimes even a single user) but the IT department does not have the time to develop them. Typically, these are small applications that just read data from multiple sources and present it in a certain format. So a mashup is essentially perusal and presentation of data as required by Knowledge Workers. The elements of a mashup are:

- **Data Source:** Typically, most Information Workers want to create views based on a common set of data. This can be achieved by creating a set of data connections to the different data sources, thus promoting re-use of data and protecting the end-user from the complexity of building the application.
- **Personalization of data and content:** It lets each Knowledge Worker define the data that is particularly relevant to him. The Knowledge Worker must be able to choose the sets of data (sub-set of the data connections already available), content and application interfaces that meet his unique information needs to create a personalized business view.
- **Mashup UI:** The data sources, however, need to be juxtaposed into a view. There are tools like JackBe, Yahoo Pipes, Google Mashup Editor and Popfly that help Information Workers compose the view from disparate data sources.

The biggest gain of this process is that it enables the Knowledge Worker to build the business application as per his own requirements. This comes under the classic “long tail of business applications” that would otherwise be too expensive to build. This is Enterprise 2.0 at its best -- empowering the Knowledge Worker -- as it has the most direct impact on productivity.

##### ***Implementation Tips:***

- Get a data view / application request tracking system to identify the most commonly used data sources and build a development library.
- Avoid creating bespoke mashups and leverage the existing COTS Mashup Editors. However, take the product decision for the intranet as a whole and not just for mashups as it will ignore the integration issues.

#### 4.2. Communication model- SLATES

The Web 2.0 tools may well supplant other communication and knowledge management systems with their superior ability to capture tacit knowledge, best practices and relevant experiences from across a company and make them readily available to more Knowledge Workers. Enterprise 2.0 is an endeavour to recreate the success of Web 2.0 in creating global self-learning communities. The SLATES Model, as defined by Prof. McAfee (<http://sloanreview.mit.edu/smr/issue/2006/spring/06>), captures the Communication Model in Enterprise 2.0 that forms the basis for creating a self-learning community in the enterprise.

- S: Search
- L: Links
- A: Authoring

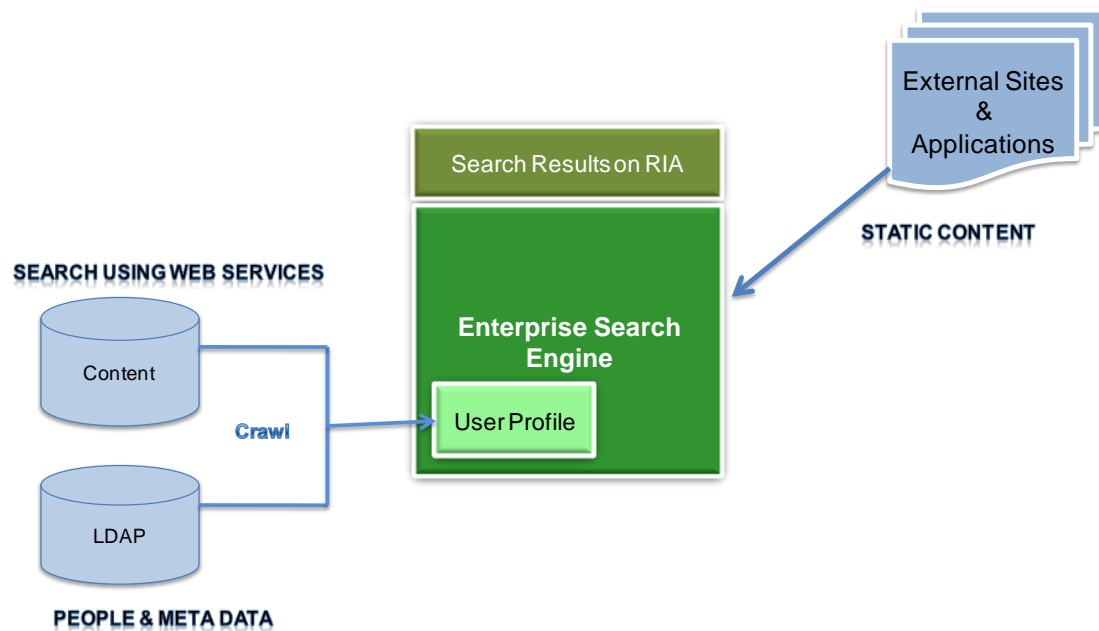
- T: Tagging
- E: Extensions
- S: Signals

The SLATES Framework is a realization of the fact that content or knowledge will be fragmented and a solution, to be SLATES compliant, should not just allow Knowledge Workers to create content (authoring) but also provide multiple mechanisms for them to access the content.

### 4.3. Search:

A fundamental aspect of an enterprise is that knowledge is always scattered. Even with well-defined, taxonomy-driven site structure, users prefer to search for content using keywords. A well-defined metadata model helps ensure accuracy of the search.

**Fig 3: The Enterprise Search Engine**



There are two key resources that the search engine queries -- the enterprise data/content stored in multiple enterprise applications and Information Workers spread across different locations in varied business groups. We shall call these as the content scope and people scope respectively.

#### 4.3.1. Content/data search:

Content resides not only in the enterprise content management systems; it resides in:

- **File Servers:** Traditionally, content used to be stored in file servers, which will probably continue to be used going forward. The content in files is very useful to Knowledge Workers and search is the best mechanism to access it.

- **Static data in other sites (internal and external):** Enterprises are likely to have multiple sites, internal as well as external, for storing data and with the evolution of the Web technology, these are likely to be in multiple technologies. Instead of leaving these sites in silos till a unified enterprise intranet strategy is implemented, search should serve as the mechanism to access the data stored in them. Some requirements, like those for mashups, need content/data from external sites (technical reference sites) and search is a good mechanism that ties internal and external search together into one box.

#### 4.3.2. People search:

An Information Worker needs to tap the organizational knowledge to be able to execute his tasks effectively. People are most often the repositories of knowledge – the experts. Another goal is to enable the teams to gain expertise to help them achieve their objective and people search is the tool required to achieve this goal (of course, the enterprise working processes have to evolve to accept this). The search for expertise requires that the user profile stored in HRIS or LDAPA contains the requisite metadata for the search engine to retrieve the appropriate results.

**Social networking in search:** Another community behaviour is that peer groups are likely to search for and access similar content. For this, the search engine needs to identify community linkages (like common expertise, managers, etc.) and offer suggestions to help identify the most appropriate/relevant search result.

**Implementation Tips:** Understanding the search patterns can reveal a wealth of information:

- Identify the content and content areas that are the most widely used and active. Look out for the keywords used most often and use them as input for updating the metadata model.
- The content that is searched for the most often is an indicator of its usefulness. In fact, an outcome could well be that collaborative content like Wiki is the most searched for and used content area, offering an insight into how knowledge is captured.

#### 4.4. Linking

Google revolutionized the process of searching for content by using links to content as an indicator of its relevance/usefulness. Links are built by content Knowledge Workers and are good indicators of what is useful to them. In an intranet, most of the content is in the form of blogs, Wikis and documents. Blogs and Wikis innately support links to the relevant content. Linking enables a Knowledge Worker to create a library of links to the content that is of interest to him (similar to DIGG and deli.co.io.us). This is important to an information architect or a system for identifying the content that has the maximum links as well as the pattern of linkage. These parameters guide the system as to which content is the most interesting/useful to the Knowledge Worker and hence, are indicators of the value of the content (this is how Google bases the relevance of a search) and allow the organisation as well as peers to recognize the content as such.

Obviously, links can be used in search results so that the content with the maximum links gets a higher relevance rating. This is an example of how the Enterprise 2.0 ecosystem needs to be built – such that each component can feed the other components to deliver better value to the end-users.

**Implementation Tips:** Understanding the linking behaviour gives an insight on the actual content that people want to use. This provides an indicator to:

- The most useful content delivery model (blogs/Wikis, etc.).
- The provider of useful content to help define/redefine the employee incentivisation model.

#### 4.5. Authoring:

“I wanted to stroke the storytelling nature in all of us...I wanted people who would not normally author to feel comfortable authoring, so that there stood a chance of us discovering the structure of what they wanted to say” -- XREF Wiki creator.

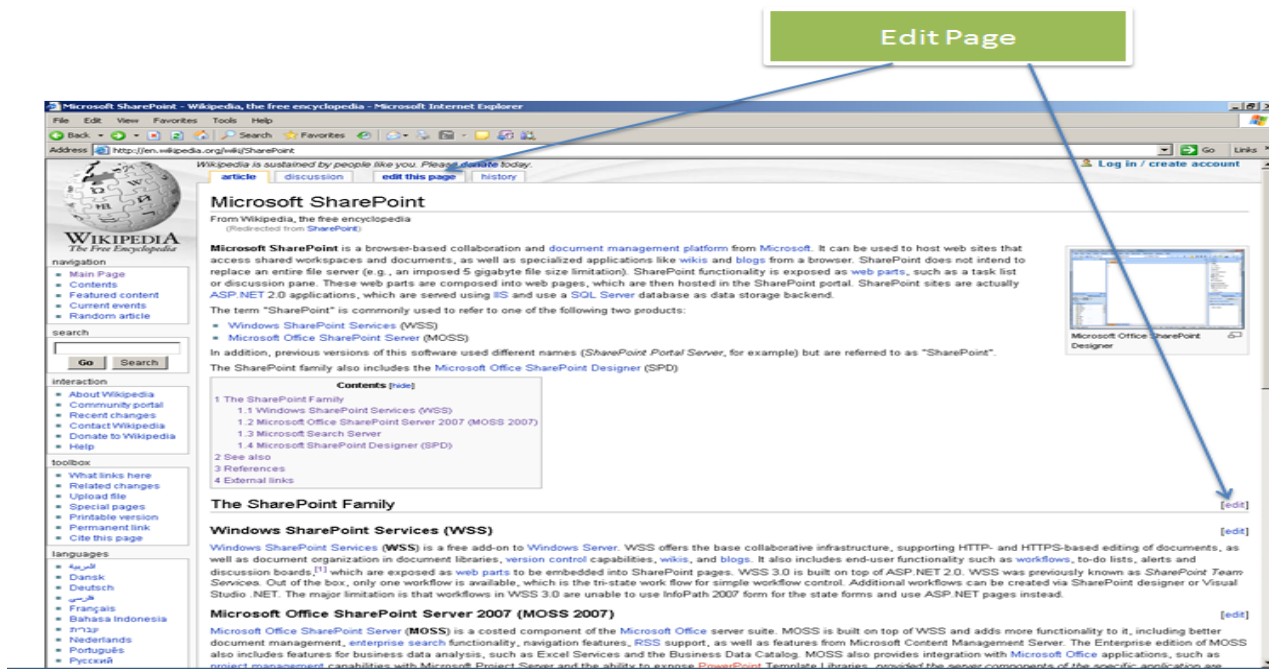
One of the biggest issues with content authoring is the rigid and formal process for employees/Knowledge Workers to actually author. The lack of time and comfort due to rigour imposed by the KM systems as well as the tendency to avoid reviews required by them are two human traits that minimized the usefulness of the formal KM systems.

Enterprises typically have a formal mode of content authoring/creation, which is based on well-defined KM processes as well as organizational taxonomy. The Knowledge Worker is easily able to access the content using the Navigation Model and/or a parameterized search. With the advent of Web 2.0 technologies, there is also the informal mode of content authoring that is equally or possibly more significant than the formal mode. This represents the long tail of the organizational knowledge.

There are multiple ways in which a Knowledge Worker can contribute to organizational knowledge. A Wiki is a classic example of how multiple people can collaborate to create content, which is actually a piece of organizational knowledge. But apart from this, there are multiple tools that allow Knowledge Workers to contribute to organizational knowledge in small ways. This is, in essence, capturing the “**Knowledge Long Tail.**”

- **Blogs:** Comments on a blog can actually give insights that make the blog content richer and more accurate.
- **Discussion Threads:** Responses to threads often throw up new perspectives irrespective of the location of the poster.
- **Wiki Content:** Tweaking the Wiki content and adding links to it makes it richer.
- **Tagging:** User-defined classification of content.
- **Rating:** Rating the content and giving comments on it provides useful feedback mechanism to the author.

Fig 4



### Implementation Tips:

Additionally, content authoring needs to be incentivized. One incentive is innately available -- the availability of information that has been vetted collectively by many authors is a productivity booster recognized by all. Peer recognition is a very powerful motivation tool. ('How organizations can incentivize content authoring' has been covered in the last section).

## 4.6. Tagging

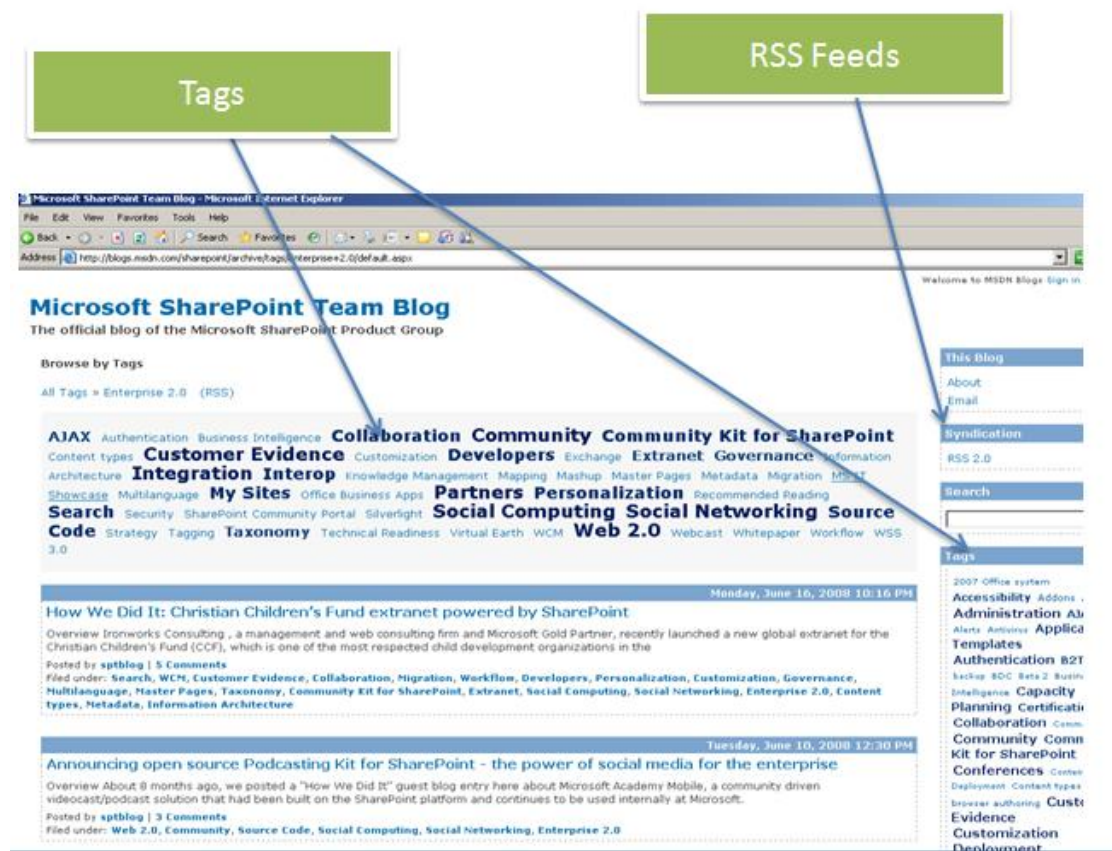
Taxonomy enforces a categorization model that is defined upfront by experts. This is the classic top-down approach. However, it has a drawback; it requires the information architect to actually visualize all the types of content and hard code them in the system. This makes the system brittle and with innovative ways of using information, it becomes outdated quickly. Knowledge Workers will find that the system does not classify content the way they do.

Another approach is to allow Knowledge Workers to categorize content. The advantage of this approach is that content is categorized on the basis of the frequency of its actual usage by people, which is an indication of its popularity. It enables the information architect to examine how content is classified by Knowledge Workers. This is the concept of folksonomy, implemented using Tags. Any content, residing anywhere, can be classified by users through Tags. As the users correct mistakes in the content, it gets updated in the system.

An added feature of this approach is to size the Tags based on the total number of Tags i.e. the amount of content belonging to a specific category. This gives a good indication of the popularity of a particular content type among users.

**[Note:** However, this is not to say that Taxonomy has no significance; there are areas of content and information, where structured metadata is required (covered in the section on 'Data Management.')]

Fig 5



#### Implementation Tips:

- Let Tagging be the defacto standard for collecting metadata and do not enforce taxonomy-driven metadata unless it is essential (e.g., regulatory requirements).
- Use the tags created to revisit the enterprise metadata model and do not limit them just to the intranet. Tags show how Knowledge Workers actually perceive information.
- Relevance tweaking of the enterprise search can be based on tag popularity.

#### 4.7. Extensions

The concept of Extensions is an extension of the concept of Tagging (pardon the pun). As a part of the concept of Extensions, the system learns user preference and needs, and offers suggestions similar to those. This concept is most widely used in search operations. The implementation of this concept can be very complex, requiring a system to know the user and track behaviour. Then, based on data mining techniques, it identifies patterns and uses them as predictors of user behaviour and offers suggestions.

A simpler approach would be to build tools on parameters like content rating, tagging, etc. to offer suggestions to users:

- In tagging, for instance, the content tagged the most on the basis of search keywords can be suggested to the Knowledge Worker.

- Based on content rating, a mechanism based on tags of the content accessed by the Knowledge Worker can show content having the same tags, with similar or better ratings.
- Content that has similar linkages and shares commonality of tags/metadata can also be used to offer suggestions to users.

Social networking features like identification of Knowledge Workers having similarities in terms of expertise, communities or location can be used to offer suggestions based on factors like:

- Content authored by them.
- Content used by them (from their collaborative workspace).

Simple tools like these can be used for implementing extensions.

**Implementation Tips:**

- The mechanism of Extensions is a great productivity enhancer, but its core value lies in the identification of patterns of content search and access by users. These patterns offer insight into which content is perceived as useful by users and what needs to be done to make content be perceived as such.
- Simpler proxies or substitutes play an important role in implementing extensions.

Fig 6

The screenshot shows a Microsoft SharePoint Team Blog page. Annotations are placed over the page:

- Extensions:** A green box with the text "Extensions" is connected by a blue arrow to the "Microsoft SharePoint Designer (SPD)" section of the blog post.
- RSS Feeds:** A green box with the text "RSS Feeds" is connected by a blue arrow to the "Subscribe Now!" section of the blog page.
- Linking:** A green box with the text "Linking" is connected by a blue arrow to the "External links" section of the blog post.

The blog content includes a title "Microsoft SharePoint Team Blog", a "Subscribe Now!" section with various news reader options, a "Current Feed Content" section with a post about SharePoint Designer (SPD), and an "External links" section listing various resources.

## 4.8. Signals

Typically, there are content areas and content that is being updated at any given point of time. The content consumer would like to be informed of an update. A typical example of this is a discussion board topic, where the topic owner would like to be alerted on updates. It is the Signaling mechanism that alerts the Knowledge Worker on an update. Intranet portals typically allow e-mail alerts to be sent to Knowledge Workers on content updates. This, however, can overload the mailbox and the updates are likely to be missed out. A more elegant tool for alerting the users on content updates is the usage of RSS (Really Simple Syndication), which contains links to the content along with some text describing the update (depends on the author).

A key feature of an Enterprise 2.0-compliant system is that it allows a user to subscribe to any type of content through RSS feed. This allows the Knowledge Worker to access the most useful content areas, without having to access them deliberately, through RSS feed.

## 5. Roadmap for Enterprise 2.0:

Enterprise 2.0 is about two factors

- **Software:** Enterprise 2.0 is about using Web 2.0 software tools in an enterprise to make the enterprise content and applications more usable and accessible. This involves adding more software to an already crowded enterprise landscape. This process involves a lot of planning, piloting and some heartburn, but is the smaller factor.
- **Organizational Culture:** Enterprise 2.0 is more about organizational culture -- an environment that encourages employees to contribute, question and collaborate without too many constraints in terms of organizational structure, hierarchy, etc.

### 5.1.1. Implementing Enterprise 2.0 software for your organization

#### 5.1.1.1. Choosing the software and piloting:

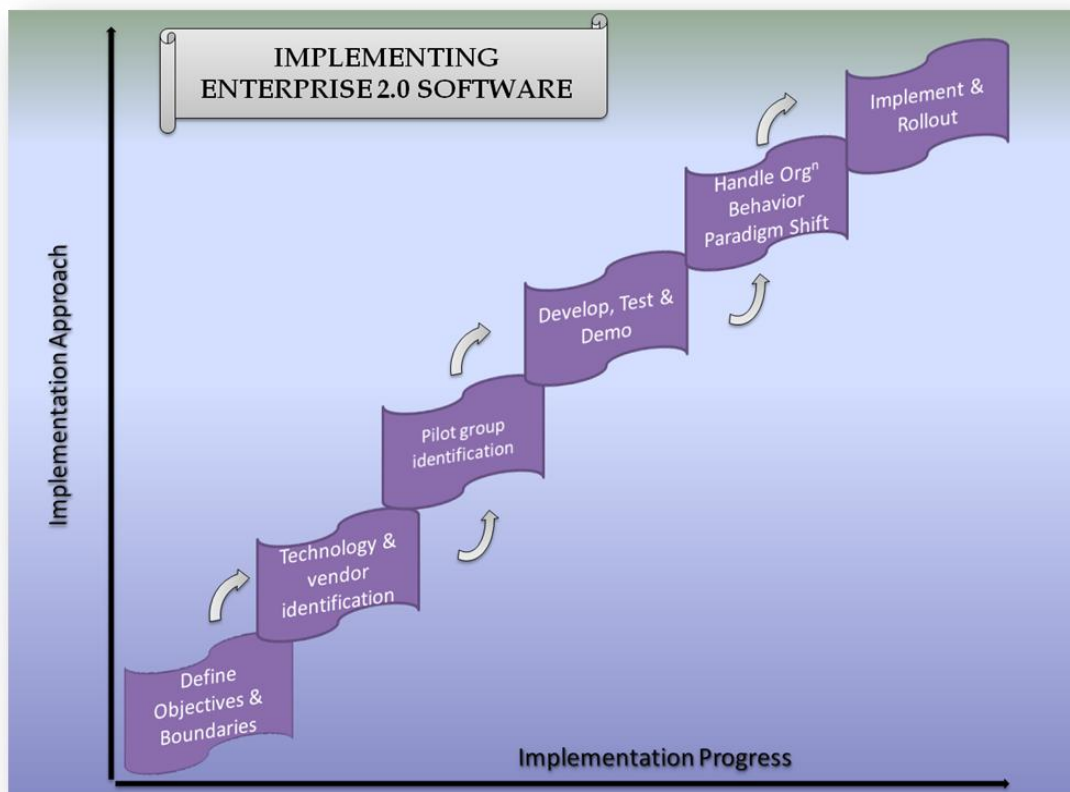
Web 2.0 has a whole bouquet of evolved software like RSS, Ajax, Curl, blogs, Wikis, etc. There are products from established vendors like Microsoft and IBM as well as from new players like Confluence for Wikis. However, not all these technologies are required for implementing Enterprise 2.0. Some of these may not even add value to the implementation of Enterprise 2.0 due to incompatibilities with the enterprise standards or may need specialized skills. Importantly, before investing in these technologies, some clarity is required on how they can be utilized and what impact they can have on the implementation of Enterprise 2.0:

- **Step 1:** Define a set of objectives that you would like to achieve using E2.0. E.g., to enable teams across divisions/business groups to collaborate on projects. Avoid defining a large, detailed vision as it may take time that can be used for implementing E2.0. More importantly, it will be difficult to envisage how the system will be used, given that it is uncharted territory.
- **Step 2:** Identify the technologies and vendors to be used for the pilot. Utilize the pilot to try out the technologies. Get presentations and demos to see the products that the vendors are offering you
  - Choose the best of breed, i.e. a product focused on one aspect of Web 2.0 like Wiki, for a product that you feel is going to be the most widely used. However, ensure that you are not paying for features that are not likely to be used or the

ones that may add a lot of structure and rules as this is against the Web 2.0 paradigm.

- Go for a vendor with a broader product offering as it will offer an expansion path. However, ensure that the product is “good enough” for the technology that you are going to use most often.
- **Step 3:** Define a pilot and identify a pilot group. The pilot group, which typifies the interactions, is the most desirable to evolve. A typical example is that of two groups who have been working in silos with processes and cultural mindset that are designed to enforce the isolation. Give them a shared objective and put in place a mentor who encourages behaviour that is aligned with the desired objective and removes barriers in the mindset.
  - Define a set of metrics/parameters that can help gauge the success of the pilot
- **Step 4:** Identify usage behaviour, practices and processes that have evolved over time. The mentor needs to be responsible for capturing this. Importantly, by this time, he has developed a very good sense of what will work and what more is needed to make it work, in terms of practices and tool interface. (Section 5.12 describes this in a little more depth). Based on this, start working on the vision and work out the rollout plan.

**Fig 7**



### 5.1.2. Getting the organisation prepared for Enterprise x.x

Enterprise organizations are, by definition, structured top-down. Enterprise 2.0 essentially turns this precept on its head. Enterprise x.x implies democratization of the organisation, at least in terms of content creation and collaboration models. The 'x.x' is not a typo as we will see that the numbers keep getting updated. The point, however, is that Enterprise 2.0 is an inflexion point for the organisation in terms of its behaviour and what follows is a set of guidelines on handling the paradigm shift.

- **Avoid big-bang:** The big-bang approach requires a lot of structure and enforcement, which goes against the principles of Web 2.0. Let the models evolve and from them, understand what works and what does not.
- **Serendipity pays:** Put the necessary tools in place and let the processes define themselves.
- **Encourage Enterprise 2.0 behaviour:** There will very probably be resistance and some apathy in terms of adoption of Enterprise 2.0. There have to be what I term as 'Push and Pull' mechanisms to encourage desirable behaviour.
  - **Pull:** The tool by itself is put in place and is simple enough for Knowledge Workers to use but functional enough to be useful KW will evolve sharing/collaboration mechanisms. The Web 2.0 users have a sense of self-fulfillment when they contribute and that is reinforced when it is found useful by their colleagues. This is something that evolves naturally and no constraints must be put on that.
  - **Push:** In Web 2.0, people may/may not contribute, based on their personal interest/motivation. In an enterprise, however, users who are most likely to contribute are also probably the most overloaded. Hence, incentive mechanisms should be put in place so that contributions as well as their usefulness can be recognized.
- **Learn and Consolidate:** Enterprise 2.0 does not mean that processes should be thrown out of the window. This is not a chaotic system; rather consolidate and modify the formal mechanisms based on the learnings of Enterprise 2.0. Identify the practices and processes, derived from the pilots by practitioners, which work best and follow them. Be open to periodic reviews of these, which anyway is mandated by the best CMM and ISO practices.
- **Sunk Cost:** If something does not work out due to factors like cultural mindset, etc., then do not try to force the issue. Put the initiative on the backburner; it can always be taken up later, if required.

*(Case study: A large organisation is piloting a Contribution Recognition Mechanism. In this, every Knowledge Worker has some baseline points. People can post questions on a particular area of expertise. Every time a Knowledge Worker responds to a question, it adds a certain number of points to his score. A response that best answers a question gets additional points. Recognition by the organisation is in the number of points and the number of responses declared the best. In addition, the KW is recognized by his peers as a useful font of knowledge. This model actually helped a number of people, who were not recognized as experts before, to come to the fore and the long tail of the organizational knowledge was thus tapped).*

- **ROI:** It may not always be possible to use ROI as the sole indicator of the success of an initiative. In fact most of the times, it is not possible to use ROI. However there need to be measures that can help gauge the success and degree of usefulness.
  - **Quantify what can be quantified:** A set of quantifiable improvements over previous process in areas like time to market, bug fixing, rapid sales proposal turnaround, more productive partnerships (speed, volume, integration) etc
  - **Qualitative measurements:** Enterprise 2.0 initiatives may not yield deterministic results. However, we should measure qualitative parameters based on the objectives of the initiative. For instance, if the initiative's objective is to make the search and retrieval of documents easy, thereby avoiding frustration and productivity loss, measure it through surveys. Surrogates need to be used to measure qualitative parameters even if the benefit is not tangible.

## 6. Conclusion

Enterprises today confront a dynamic, global set of forces and seek to evolve a system that fosters sharing, learning and collaboration to drive innovative solutions. Enterprise 2.0 is the paradigm that offers such a system. This is aimed at empowering the Knowledge Worker to create workspaces that are most effective for him – which offer business views and also provide an elegant set of tools based on the SLATES Framework for searching and accessing content of business use. It is also important that the employees are empowered to respond to unstructured situations by creating information structures and collaboration mechanisms that most effectively address the situation. The most critical factor for implementing Enterprise 2.0 is creating an environment that fosters a collaborative culture, for it is only then that value can be added to the enterprise.