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1 - Executive Overview

This document is a high-level specification of Changepoint's Service chain interoperability project. The project will involve enhancements to our SQL enterprise product, the development of a new portal site, the development of a light hosted version of our PSA software and an interoperability infrastructure that connects all these components over the Internet.

MyChangepoint Portal Site

The Changepoint portal site (referred to within this document as "MyChangepoint") will be comprised of several components, or offerings. A brief description of these components follows:

MyChangepoint.com "front door"

The front door will provide public access to MyChangepoint's marketing messages and subscription offerings. Once registered, members will login to a variety of services and offerings.

Changepoint PSA Express

Changepoint PSA Express is a light, hosted version of Changepoint's enterprise PSA software targeted at users who need to interoperate within the service chain but do not have access to Changepoint enterprise software. These users may be independent contractors, employees of small consulting practices, small groups of users within larger PS organizations or small groups of buyers within corporate IT departments. Use of the Express software will be free for users. Changepoint will capture transactional revenue from the enterprise user based on the business transacted through the Service Chain infrastructure.

Resource Marketplace

The Resource Marketplace will be a business-to-business space for consulting companies, IT departments and independent contractors to automate the sourcing, procuring, and managing of IT resources. The procurement process and subsequent transactions will be supported online through interoperability between Changepoint's software (Express and Enterprise) and 3rd party web based staffing organizations such as SkillsVillage.

PSA Community Offerings

While not well defined at present, the site will offer many other benefits to members. Examples include:

- Staying on top of industry trends through targeted news feeds.
- Measuring performance against industry standard data and benchmarks.
- Collaborating online with customers and suppliers.
- Volume purchasing.
- Access to 3rd party offerings such as virtual meeting rooms, web demos, outbound faxing and courier services.

The portal site is intended to provide the infrastructure for full interoperability between all members of the IT service delivery chain. Clearly, the process which solves the largest business problem and thus presents the most compelling use case for this interoperability model is the buyer of IT services managing their contractors. Although

the express software will provide significant benefits to a consulting practice, we must remain focused on the needs of the buyer, I.e. the IT department, as they will ultimately drive adoption of the infrastructure.

Changepoint Enterprise 6.0

Changes to our enterprise software will be necessary to facilitate integration with the portal site and with other enterprise software users. The other significant addition to the enterprise software is contractor management. Contractor management includes the processes for finding, retaining and managing the work of outside contractors. Our interoperability architecture will automate many of these processes at the transaction level.

The ultimate success will be the adoption of this architecture as the standard for business-to-business transactions in the IT service delivery chain. With this ultimate goal in mind we must strive for an architecture that could be opened to third party developers and products. We are exploring XML as a potential technology that would provide open access to the interoperability framework.

2 - MyChangepoint Web Site

The MyChangepoint web site will be the place on the Internet where the Changepoint Service Chain interoperability infrastructure exists. More specifically, the portal site contains the glue that connects Changepoint enterprise customers together and connects Changepoint enterprise customers with their customers and suppliers.

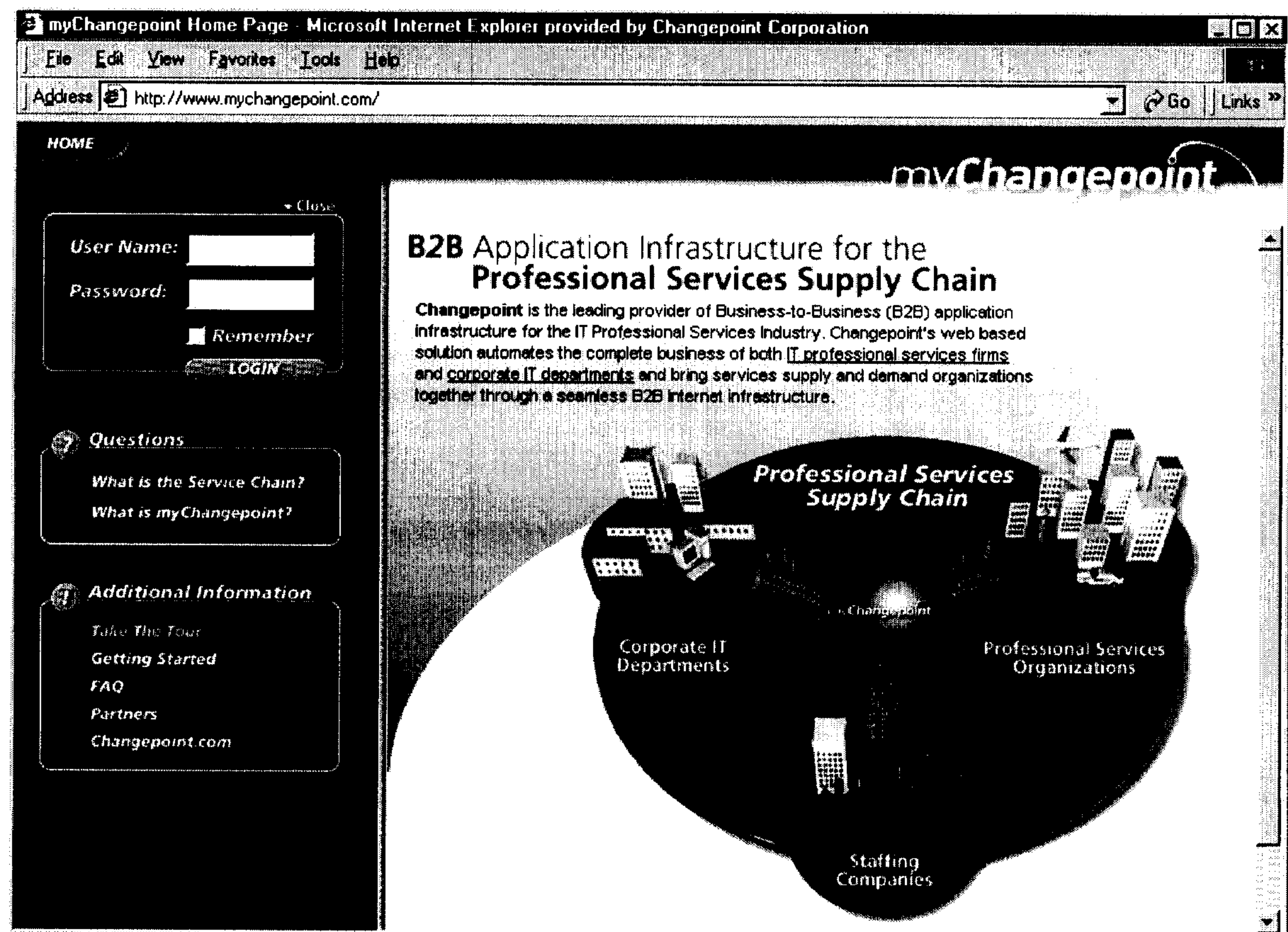
This section will address the design and basic requirements of the site's "Front door" and public pages. The interoperability architecture and Express user functionality are addressed in other sections.

Product development will be responsible for the construction of these web pages, integrating them with the ad server, performance monitoring and enabling a method for managing the content.

Marketing will create and manage the content both during construction of the site and after the site goes into production.

Compendium Design has been retained to develop the creative and navigational elements of the site.

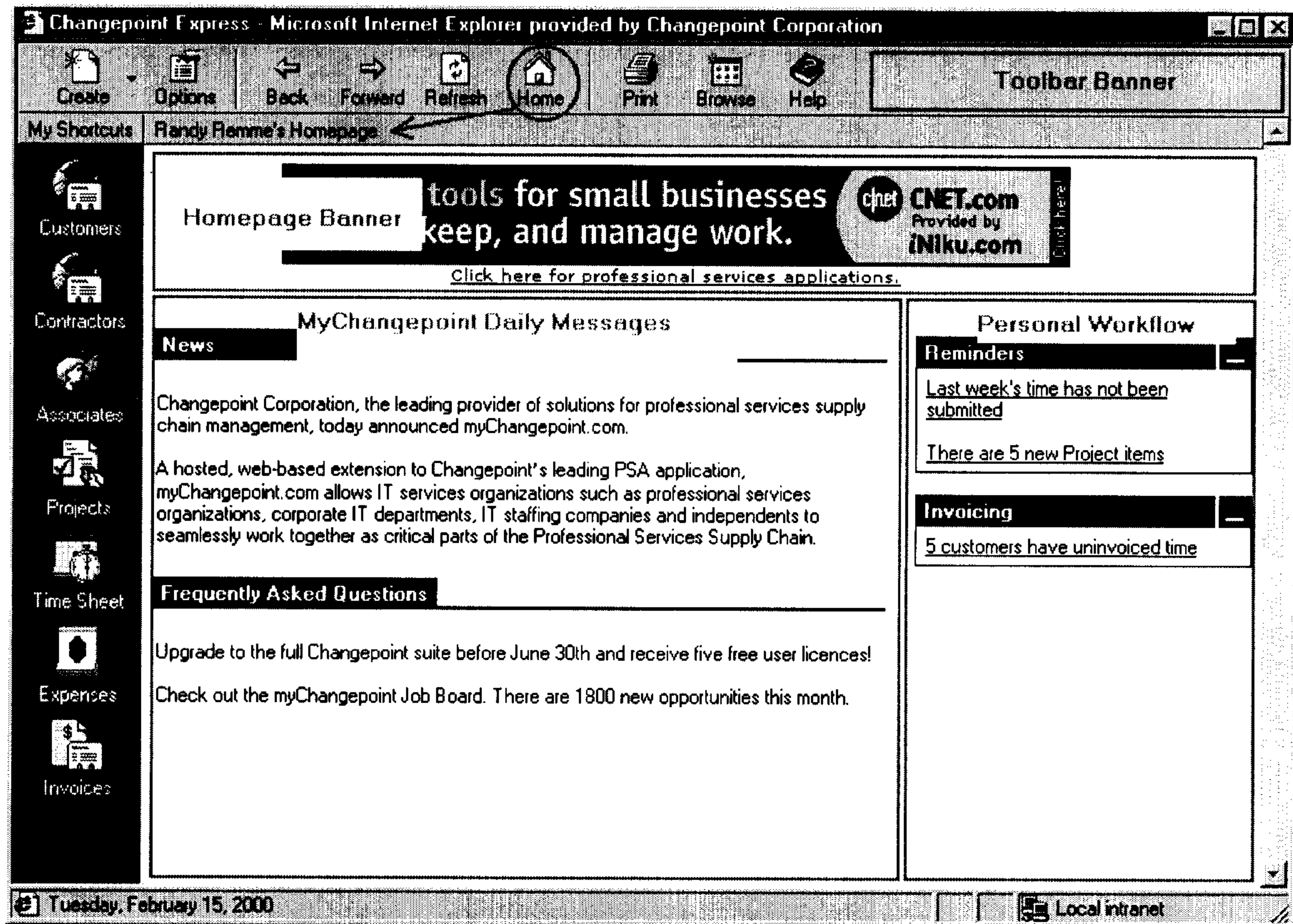
Screen mockup of MyChangepoint "Front Door"



Once logged in, a MyChangepoint user will be presented with an "application-software-like" interface, referred to herein as the MyChangepoint Express Client. All member services will be accessed from within the Express client.

The express client will be described in greater detail in later sections. The screen mockup below is intended to illustrate the two primary areas reserved for banner advertising within the express client. The banners will be served up by Site Server's Ad Server.

Screen mockup of MyChangepoint Express Client Home Page



Screen mockup of Site Server's Ad manger Console

Performance Summary Microsoft Internet Explorer provided by Changepoint Corporation

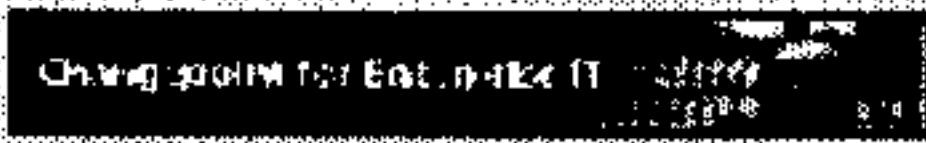
File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit

Address http://cp_ecosystem:81/admanager/performance.asp?campaign_id=5 Go Links

AdManager **Customers** **Performance** **Help**

Performance Summary

Customer/Campaign	From	To	Scheduled	Ad Requests	Clicks	Click Rate	Performance
Changepoint							
 CPEXpress Banner Promotion	2/23/2000	12/30/2000	0	467	19	4.07%	Ad Requests
 Banner1 - Bench 	2/23/2000	12/30/2000	0 (H)	44	1	2.27%	
 Banner2 - Bridge 	2/23/2000	12/30/2000	0 (H)	56	3	5.36%	
 Banner3 - Bench2 	2/23/2000	12/30/2000	0 (H)	41	8	19.51%	
 Banner4 - Baby 	2/23/2000	12/30/2000	0 (H)	60	2	3.33%	

Local intranet

3 - Registrations & Membership

The MyChangepoint site will have two types of corporate registrants and two types of registered users.

Corporate Registrations

Changepoint Enterprise Company

This includes IT Departments, IT Consulting companies and IT Product companies who utilize Changepoint Enterprise software to manage their businesses. The software is either installed on their site, or hosted by an ASP such as Corio. Enterprise customers will register their site with MyChangepoint upon deployment. The MyChangepoint site will then enable workflow processes between the enterprise customer's server and the central MyChangepoint application server. Without being registered at MyChangepoint, data cannot flow between the enterprise customer and other members of the service chain.

Changepoint Express Company

This group includes independent (one person consulting practices), small consulting practices with 2 - 15 employees/associates and groups of users within large consulting organizations or IT departments. These companies have no local Changepoint software and no Changepoint server in their organization. Their users participate in the Changepoint solution via MyChangepoint.com using a browser.

User Registrations

Enterprise User

The Enterprise user is an employee of an IT Department, IT Consulting company or IT Product company who uses Changepoint's Enterprise software. This user has licensed Changepoint client software and connects to their corporate Changepoint server. Components of the MyChangepoint offering will render within their enterprise client. Their member privileges will be controlled in part by their corporate registration.

Express User

These users connect to MyChangepoint through a browser for their entire Changepoint experience. Up to 15 of these users can be grouped together to represent an Express company. This user is typically a supplier of services (although customers can also utilize the express functionality) who has been invited by their customer. This type of user may or may not be grouped with others within their organization.

Registration Process

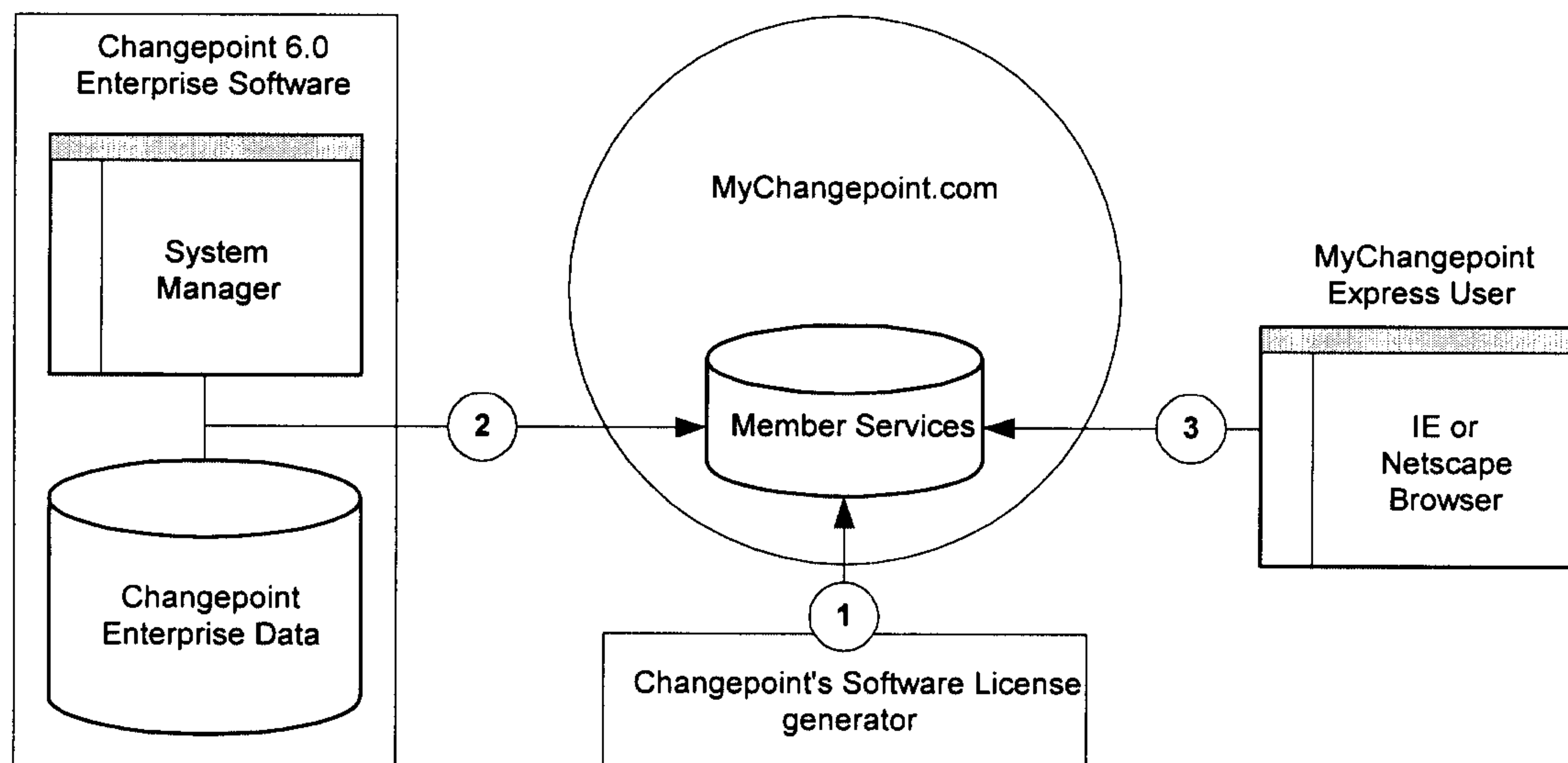
Note: Steps 1, 2 and 3 reference the diagram below

Registration Steps for Enterprise Organizations

1. When an enterprise license key is generated through Changepoint's internal license issuing database, the customer is automatically pre-registered at the MyChangepoint site. The customer's license key becomes their unique organizational identifier. (See the "License Management" dialog below)
2. Through the "Global Interoperability Setup" dialog in Changepoint System Manager, a customer completes their registration by completing their preferences, agreeing to the MyChangepoint license terms and submitting their update. The update is automatically routed to MyChangepoint via a trusted connection over the web.

Registration Steps for Express Organizations

3. Through the MyChangepoint "Registration" page, a New Express organization is registered by filling out some basic information and agreeing to MyChangepoint license terms. (Note: an express user will typically have been pre-registered via an invitation from an existing Changepoint Enterprise user (express users may or may not be allowed to invite users from other organizations)).

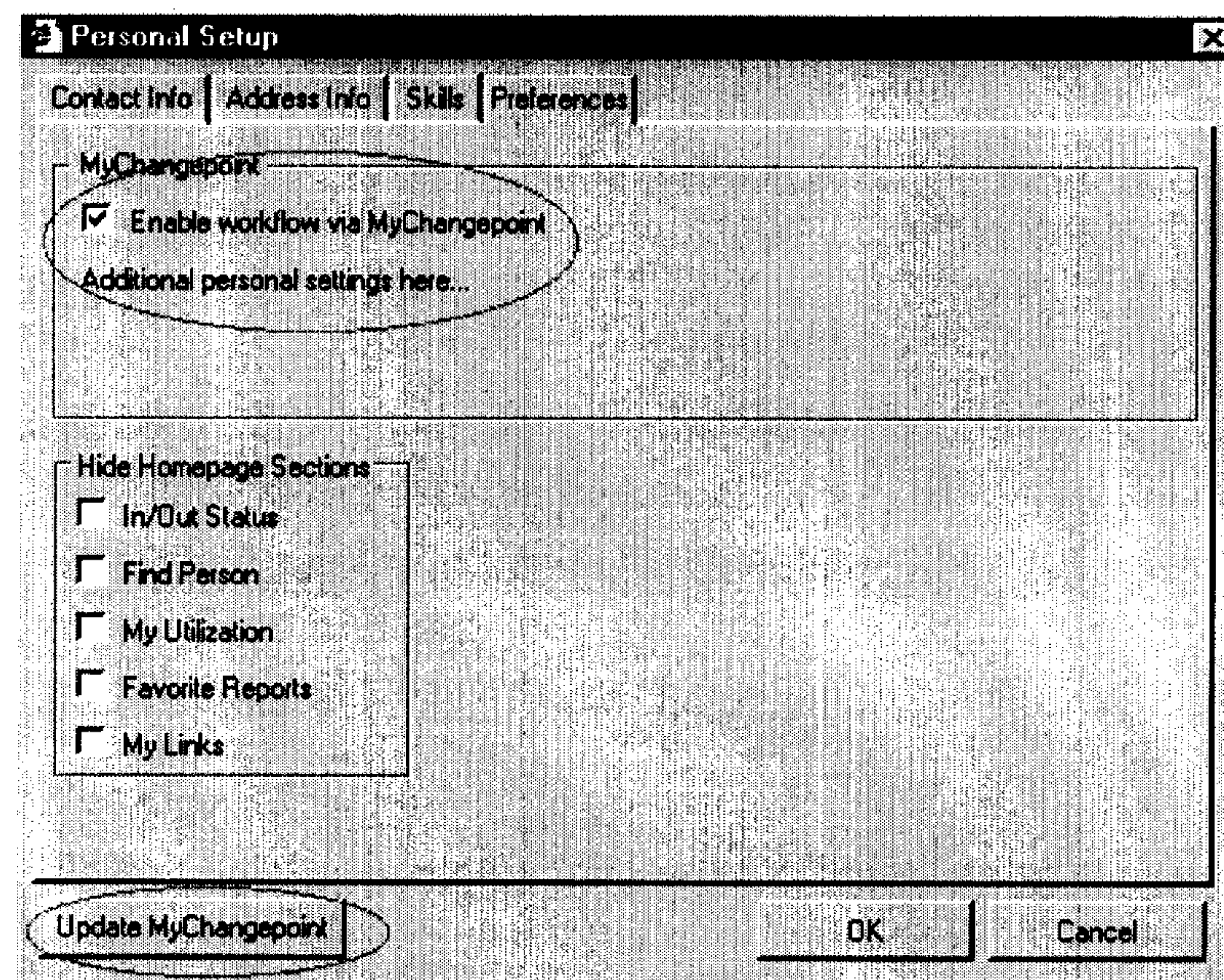


Individual Registrations (Users)

Enterprise User

In order to register at MyChangepoint the user must have been granted the "MyChangepoint Workflow" feature within their enterprise system. The user can then "Auto Register" at MyChangepoint by enabling the "Enable Workflow via MyChangepoint" checkbox in their personal preferences dialog (see screen shot below). Their client software will then send an image of their personal profile to the MyChangepoint database. Their email address will be used as their unique identifier. The user can choose to update their profile on MyChangepoint at any time by clicking on the "Update MyChangepoint" button.

Personal Preferences Dialog showing MyChangepoint Enablement Option



Express User - Supplier

These users connect to MyChangepoint through a browser for their entire Changepoint experience. Up to 15 of these users can be grouped together to represent an Express company. We group express users into two categories, Suppliers and Buyers. There are two possible scenarios through which an Express user can be registered as follows:

1. **Invited User** – An individual can be invited to MyChangepoint by another user within the Changepoint infrastructure (enterprise or express). This invited user will be pre-registered and will only need to complete their registration upon arrival at the site. Invited users can be:
 - Invited by a user within another organization
 - Invited to join an organization
2. **Self-Registration** – An individual can enter the MyChangepoint site and register their organization and themselves within that organization.

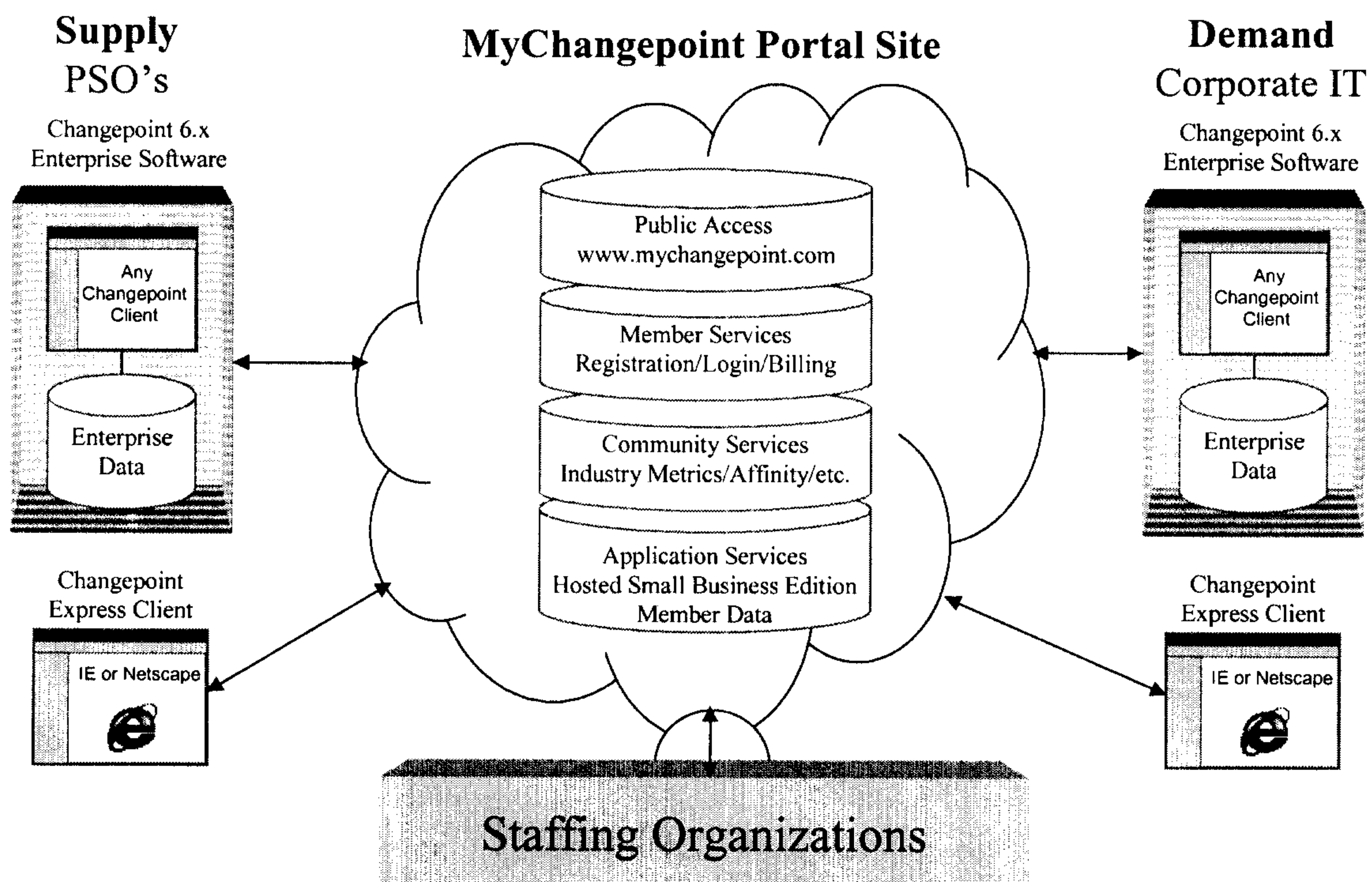
4 - Changepoint Interoperability Architecture

This section outlines at a high level the architecture which links together all members of the service delivery chain.

High Level Components

The diagram below shows the high level components of the MyChangepoint portal site as well as the Changepoint components that reside at an Enterprise customer site. Note that on both the supplier and buyer side, a user can be using either the enterprise software or the express software. The first phase release of MyChangepoint may impose some restrictions on who can initiate a transaction as a sponsor must be defined who can pay for the transaction.

Integration to staffing organizations will likely be through a series of API's or XML standards. The intent is that a user of Changepoint enterprise software would be able to perform resource searches and MyChangepoint would scan the approved Internet based staffing exchanges to find candidates. This specification will evolve further as we begin work with partners in this area. An agreement has been signed with SkillsVillage (www.skillsvillage.com) and integration work will commence shortly.



Synchronization of Organizations and users

One challenge of an interoperating environment is the synchronization of organization and user entities thus ensuring each entity's uniqueness. For example, if a consulting company enters a customer named "United Grocers" into their system, how does MyChangepoint know whether to match that organization with "United", "United Grocers Inc.", or "United Grocers Corp." who are all registered member organizations of MyChangepoint. To complicate matters further, What if the correct company is "United Grocers Ltd." and is not yet registered within MyChangepoint at all.

Our method of synchronization starts with ensuring that each and every entity has a unique identifier. Next we must distinguish between entities which will be interoperated with and those that will not. When a user adds a new company record, there will be a new checkbox in 6.x (and possibly express version) with the caption "Interoperate via MyChangepoint". Some logic must be applied here, I.e. If the 6.x enterprise organization is not yet registered with MyChangepoint or if the user does not have the interoperate feature, then the checkbox should be "grayed out".

- If the checkbox remains unselected, it is business as usual following the 5.x workflows with no interoperability between the organizations and no interoperability between any users within the new organization.
- If the interoperate checkbox is selected, the user is presented with a wizard delivered from MyChangepoint that attempts to match the newly entered organization with a registered organization in the MyChangepoint database. If a match is found, the organization's unique identifier is passed to the enterprise software and saved in a hidden field on the company record. If a match is not found then the user is directed down the path of creating an invitation for that organization to join MyChangepoint.

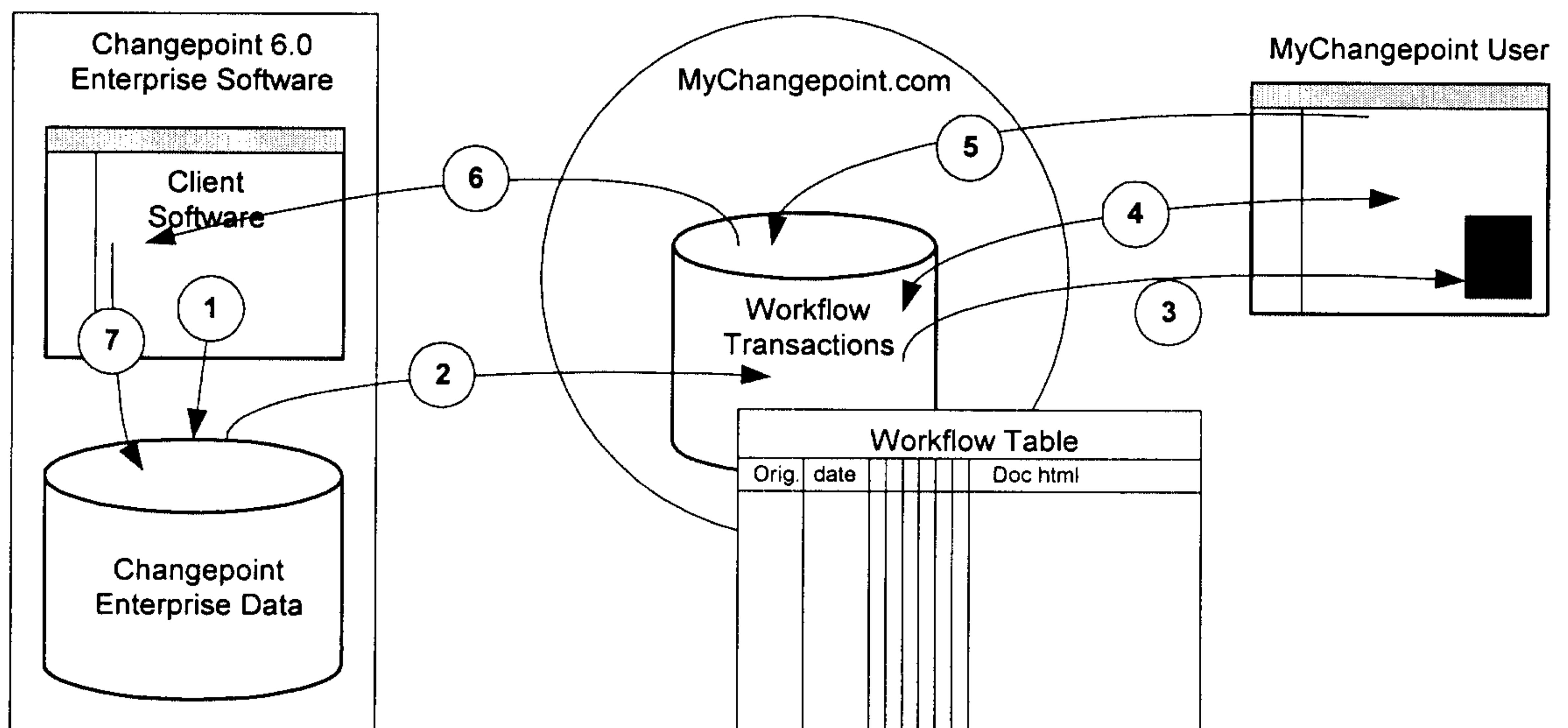
Synchronization of users will follow a similar process however it will be simpler to find matches as the reference will be one level deeper in the hierarchy.

The Workflow Process

The diagram below demonstrates the steps in the workflow process. This framework will work with engagements, time, expense and invoice transactions in the first release. It has been designed as an open framework that will support other kinds of workflows to be added with future releases.

The following steps demonstrate a typical invoice workflow process. The numbers in the list relate to the number indicators in the diagram below:

1. User submits an invoice for approval.
2. The software creates a workflow record in the MyChangepoint Invoice Workflow transaction table.
3. The next user in the workflow cycle is notified by a workflow trigger added to the MyChangepoint window on their personal home page (and depending on user preference, by e-mail).
4. The user clicks on the link and MyChangepoint sends the workflow (the workflow is comprised of an HTML rendering of the document with the workflow controls).
5. The user acts upon the document, I.e. accept/reject with comments thus updating the record in the Invoice workflow table on MyChangepoint.
6. The original submitter is then notified that the workflow status has changed and provided with a link.
7. The document status can be assigned back and forth from submitter to approvers until it is accepted or closed. Upon final acceptance, the originators record within their enterprise database is updated with the workflow audit trail. (In phase 1, the transaction will be processed at the document level, i.e. an invoice or a time sheet. Phase 2 will utilize XML and break the document down into lower levels such as full fidelity time records.)



Technical Notes:

1. Under no circumstances is MyChangepoint pushing data into or pulling data from an organization's database. In all cases the end user's software is pulling and pushing. For example, when the user launches Changepoint client software, their personal homepage requests an update of their portal window from MyChangepoint. MyChangepoint then builds their workflow page and returns it. The user can then click on a workflow link thus requesting the page and MyChangepoint will send it. When the user acts upon the workflow they are writing updates to the MyChangepoint Workflow table. This model should ensure compliance with organizational security and firewall standards.
2. When a transaction document is created in the table on MyChangepoint, a number of fields are completed which record the originator, the organization, the date, the workflow status, the record type (I.e. Invoice, Time Sheet, etc.) and a text field is filled with the HTML source which will render the document and it's associated workflow controls. Through this method, the original records used to produce the document need not follow the workflow around the Internet and thus never leave the security of the enterprise database.

Time Sheet Transaction table

The first phase of the interoperability infrastructure will be targeted at document level workflow transactions such as the submittal and approval of a time sheet.

Future releases of the infrastructure will support lower level transactions such as individual time records rather than a week of time records. The system has therefore been architected to support record level transactions at a later date.

The table below defines some of the columns required in the time sheet transaction table. Note that at this stage of the specification process the table has been defined somewhat generically as it is intended to provide the starting point for additional transaction tables including Engagements, Expenses and invoices.

Time Sheet Workflow/Transaction table column definitions

Name	Type	Description
Date Submitted	Date	Date Record is added to the transaction table
Submitter ID	Id	ID of the person submitting the workflow
Submitter Organization ID	Id	ID of the submitters Organization
Status Date	Date	Date workflow status was last changed
Date Completed	Date	The date the transaction was completed
Target ID	Id	ID of the person who must process the workflow
Target Organization ID	Id	ID of the organization the person who must process the workflow belongs to
Transaction Status	Picklist	Values: Submitted, Rejected, Approved, Cancelled
Total value	Monetary value	This field will probably be blank in the case of a time sheet workflow as the unit of

		measure from a transaction point of view is hours
Total hours	Numeric hours	This column contains the total submitted hours
Document DHTML	Text	This text column contains the complete DHTML source required to render the document and all it's workflow controls
Transaction Sponsor Organization ID	Id	The ID if the organization who will pay for the transaction
Billing Status	Picklist	This refers to whether or not Changepoint's billing system has billed the sponsor for the transaction. Values: Pending, Billed, written Off, Credited
Billing Reference	Id	Billing system id once the transaction has been added to a Changepoint invoice
Billing date	Date	Date transaction record was billed

Design Goals

The following were some of our design goals in arriving at this architecture:

- The customer's setup must be minimal, I.e. Simple registration, little or no ongoing maintenance, should not require a guest server outside their firewall.
- Avoid duplication or moving of data wherever possible.
- Ensure uniqueness of all organizations and individuals.
- Provide security and privacy for all users.
- Must provide mission critical performance and reliability.
- The framework must be extensible – I.e. it must be adaptable to changing application requirements.
- Must support openness for future API's and/or partnerships
- Must be designed for efficient hosting and management

5 - MyChangepoint Enablement of 6.0

The following section describes the modifications required in the 6.0 version of Changepoint Enterprise Edition.

Modifications and Additions to System Manager

Changepoint License Management

The Changepoint license management dialog is shown below. The current process (5.0 through 5.21) for enabling an enterprise site and users will continue to be used without modification. The customer's registration key shown in the license management dialog below will be used as the organization's MyChangepoint account number to ensure uniqueness.

License Management Dialog in Changepoint System Manager

License Management

Registered To: Changepoint Corporation

Registration Key: F84A7B95-CC6F-40DE-B4CF-41727A873988

System License Upgrades

License Level	Description	Activated
1	Service Delivery Management	Yes
2	Project & Resource Management	Yes
3	Sales & Marketing Management	Yes
4	Help Desk Management	Yes

User Licenses

License Type	Used	Available	Total
User	166	334	500
Guest	67	433	500
OLAP	24	476	500

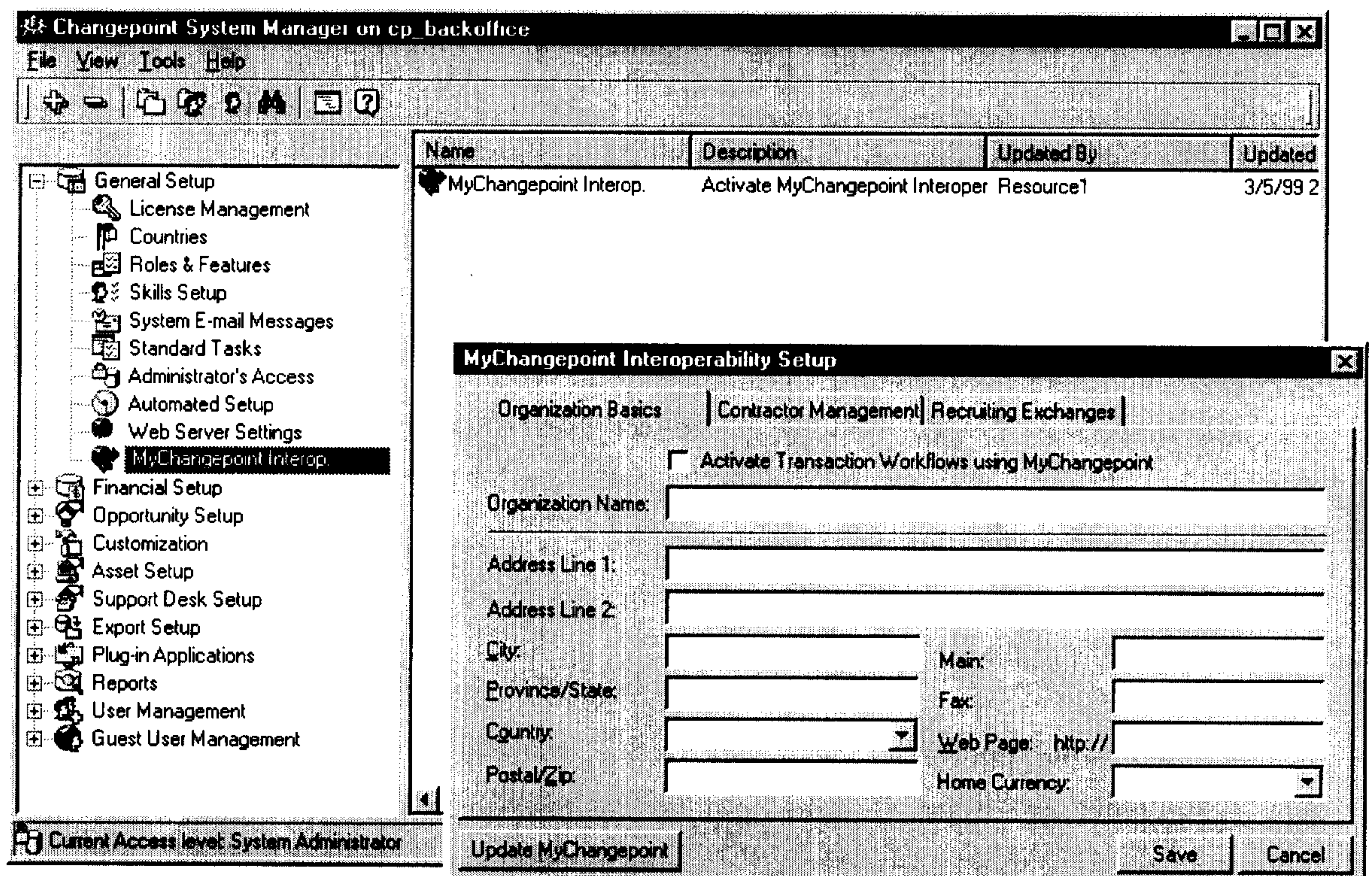
Changepoint "Guest User" feature

The current "Guest User" functionality that has shipped in all versions of the SQL product from 5.0 to 5.21 will be preserved in 6.0. This feature was targeted at, and is typically used by PSO's who wish to collaborate with customers. In contrast, MyChangepoint is targeted at automating transactions between members of the service delivery chain. Future releases of the guest access functionality will see it aligned more towards a corporate IT department's support of their internal customers, possibly positioned as a corporate IT portal.

Enabling an Enterprise Deployment for Interoperability with MyChangepoint

Upon deployment, an enterprise customer registers their company with MyChangepoint by launching the setup dialog (screen shot below) from within their Changepoint System Manager. The dialog contains basic contact information and the rules around which their organization will transact in the service delivery chain. Clicking on the "Update MyChangepoint" button sends the registration information and completes the process. The organization is now an enabled corporate member of MyChangepoint. The next step is to grant users the feature to use MyChangepoint interoperability (through roles & features).

Screen Mockup – System Manager with MyChangepoint Interoperability Dialog



New Access Control Features

Group:

- MyChangepoint

Features:

- MyChangepoint Transaction Workflow
- MyChangepoint Extended Resource Searching

MyChangepoint Registrations of Enterprise organizations and users

1. Changepoint's license generation application must send a "pre-registration" up to the MyChangepoint site each time a new organization license is created.
2. The System Manager application must provide a new "MyChangepoint Interoperability" dialog that can be used upon deployment to register the enterprise customer at MyChangepoint.
3. A new feature needs to be added called "MyChangepoint Workflow". This new feature will enable users within the enterprise software to be registered at MyChangepoint.
4. The personal preferences dialog needs to be updated with a new "MyChangepoint" tab. The tab will enable the user to "auto-register" at MyChangepoint by sending there shared personal profile info up to the site. They will also need an update button to push updates (such as in/out, contact #'s) up to MyChangepoint. The dialog may also need to have some privacy options, yet to be defined.

Modifications and Additions to Changepoint Desktop (Browser & VB)**Contractor Management**

U N D E R C O N S T R U C T I O N

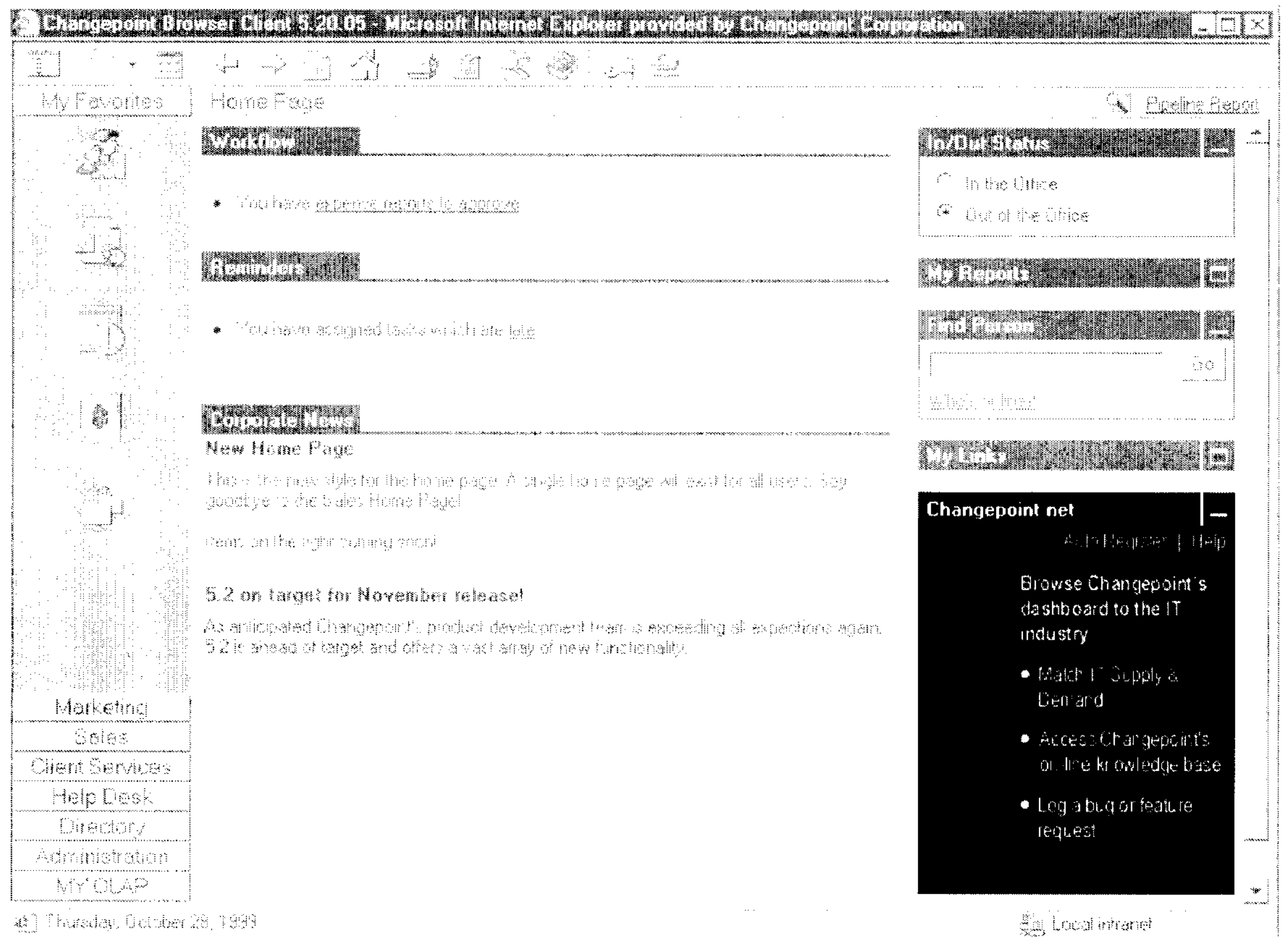
Engagement Workflow

The typical process will be for the Customer (ITD) or staffing company to be the originator of the engagement in the form of an engagement request. Thus when the engagement dialog is opened in MyCp express, the requested resource (or role) with the requested rate will already be inserted into the grid in an un-editable column. The next step is for the MyCp user (typically the administrator) to map resources and rates to the initiators requests and re-submit the engagement back to the initiator for approval.

Extended Resource Searches & Integration with Staffing Exchanges

Changepoint's Portal Window within the Changepoint Desktop

In the Changepoint 5.2 desktop, VB & Browser versions, we built a small window on the personal homepage which draws it's content from the MyChangepoint web site. This window will remain the same in 6.0 except that the users MyChangepoint ID will have to be passed to them when the personal homepage launches. This is necessary so that the ID can be passed to MyChangepoint when asking for page refreshes. Note the screen shot below where the portal window can be seen to the bottom right.



In addition to personal workflow triggers for members, for non-members we can present information about MyChangepoint thus inviting visitors and generally marketing the site's existence and offerings.

The following layout is a mockup of functionality only and does not reflect the current site design.

My Changepoint

myChangepoint

**Changepoint Announces
myChangepoint.com!**

Arriving in the first quarter of 2000,
myChangepoint.com enables
Changepoint customers to integrate
their entire services supply chain.

- Manage external contractors time,
expenses and skills seamlessly
- Find skilled staff
- Manage relationships with your
staffing companies of choice
- Integrate clients for closer
relationships

My Changepoint Portal Window

- The title bar, collapse/expand control and window frame are a standard part of the 5.2 home page. Clicking on the bar opens or closes the window
- The region below the title bar is DHTML and is pulled directly from MyChangepoint when an Internet connection is available. This allows the content to be personalized for the user.
- This region thus represents the users "external workflow triggers". It can also welcome them by name, share things between them and coworkers, etc.

6 - Changepoint Express Client

The express client presents a complete hosted PSA solution. The solution will be 100% browser based and the personal preferences will actually contain all "system Manager" settings necessary to setup a complete small practice billing office. The key integration point with customers will be the submittal and approval workflows around engagements, time, expenses, and invoices.

Description

The Express client is the browser experience (or container) through which "MyChangepoint" members will access the site once logged in.

Technology

Users will require an Internet Explorer (or Netscape Navigator – planned for second phase release) browser, version 4.x or higher. There will be no client-side software or install required.

Access

Users will login over the Internet. A login is created for them either by invitation from an existing Changepoint user (Enterprise or Express) or by self-subscription via the MyChangepoint web site.

Function

The Express Client will frame out all the "logged in" functionality of the MyChangepoint offering including:

- PSA Business Management Application functionality and workflows
- Integration with other Changepoint users (Enterprise or Express)
- Access to Affinity programs and Supply & Demand mapping

System Entities

The following hierarchy chart outlines the primary entities that will be accessible to users of the system to fulfill their business process requirements.

Membership

Company (analogous to Workgroup in Enterprise Edition)
 Billing/Usage Profile
 User
 Enterprise Customer
 Billing/Usage Profile
 Enterprise User

Structured Data (transactional)

Company
 Contact
 Engagement

Time
Expense
Invoice

Unstructured (collaborative)

Project (analogous to Team Folders in Enterprise Edition)
Task (analogous to Task & Assignment in Enterprise Edition)
Attachment
Discussion
Calendar
Poll

Functional "Walkthrough"

The following pages will step through the functional areas of the client using the user interface as a guide.

Two changes have been made to the user interface design which are not reflected in these screen shots:

1. A new section called "Contractors" has been added to the navigation bar directly below "Customers".
2. "Setup Preferences" has been moved off of the navigation bar and onto the toolbar.

Entry Screen – Personal Portal

Similar to the Enterprise Edition, the express client greets the user upon login with a personal homepage, or digital dashboard. In the screen shot below the page is broken into three vertical columns. The center column is intended for MyChangepoint marketing messages, offers, news and/or 3rd party banner advertising.

The rightmost column provides the user with personal reminders, links and workflow triggers.

Screen Mockup of the Personal Home Page

www.mychangepoint.com - Microsoft Internet Explorer

Create Browse Back Forward Refresh Home Print Help Logout

My Changepoint Welcome Page

My Changepoint™
Free PSA for the small consulting practice
from the leaders in Professional Services Automation

News

In a deal reportedly worth in excess of \$250,000 dollars, Changepoint acquires Evolve Software. Changepoint plans to disassemble Evolve's software and reuse some of it's icons.

Changepoint officials said they planned to convert all of Evolves customers over to Changepoint's software. Both of Evolves customers declined to comment, they said they had a backlog of invoicing to attend to.

Free Offers

Upgrade to the Full Changepoint suite before Dec. 31st and receive 5 free user licenses!

Enable 10 guest users this month and receive 100 Changepoint merchandise credits.

Check out the My Changepoint Job board. There are 1,800 new opportunities available this month.

Have you updated your competency table in the contractor area? Membership is free and 18,000 IT departments search the My Changepoint contractor area each month.

Reminders

Last week's time has not been submitted

There are 5 new items in Team Folders

Invoicing

5 Customers have uninvoiced time

My Utilization

<< November 1999 >>

Total Hours	145
Billable	88
Utilization	42 %

Reports

Monday, November 08, 1999 Local intranet

Distinction between Buyers & Suppliers

Several different user types within the IT Service Chain will use the MyChangepoint Express Client. The primary distinction we make within the application logic and user interface is whether they are a "Buyer", or a "Supplier".

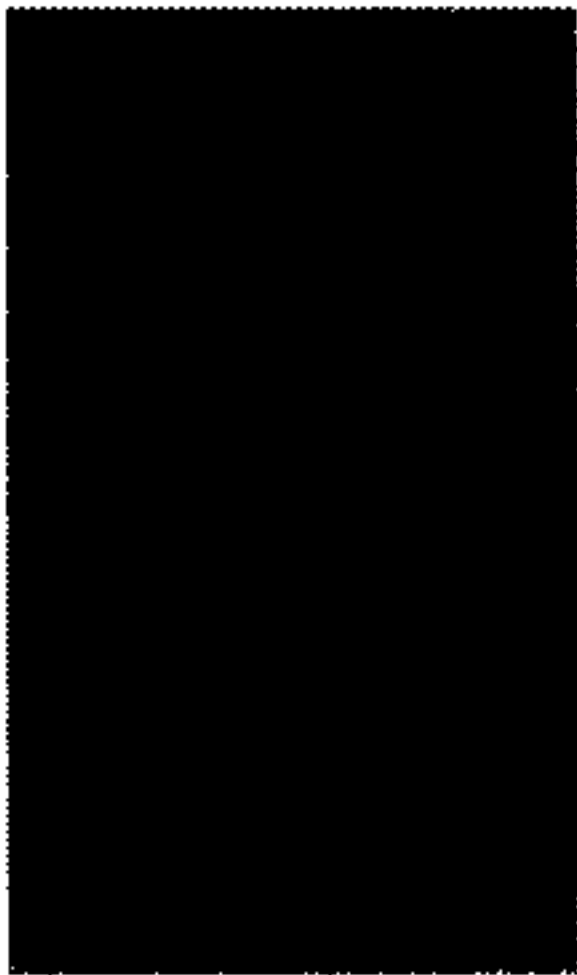
The illustration below demonstrates at a very high level the user interface delivery and how it differs between buyers and suppliers.

Buyer vs Supplier User Interface

Buyers	Suppliers
• Corporate IT • Large PSO's • Staffing Organizations	• Large PSO's • Small PSO's • Independents
 Customers Not Applicable	Opens a treeview containing a list of all customers they're working with via MyChangepoint. Includes contact profiles and engagements



Opens a treeview containing a list of all contractors they're working with via MyChangepoint. Includes contact profiles and engagements
A buyer can group together up to 15 associates within their organization forming a virtual group.



Not Applicable

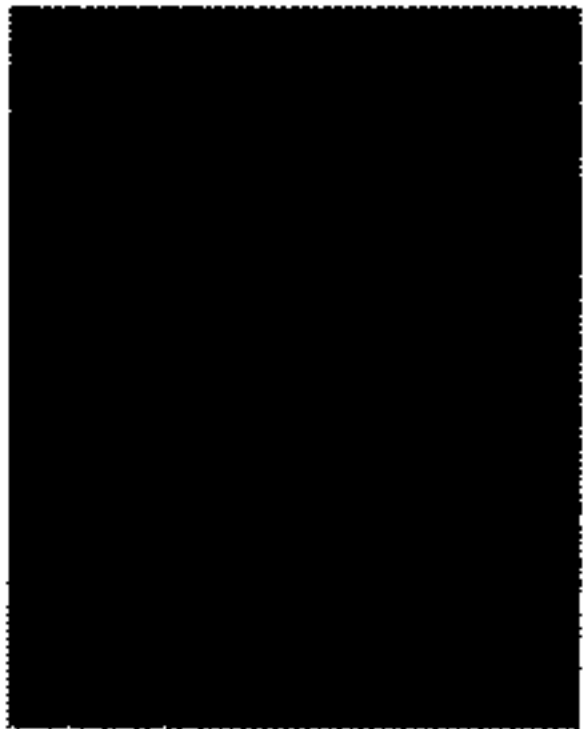
A buyer can group together up to 15 associates within their organization forming a virtual group.





All users can collaborate on adhoc projects, i.e. review status, share documents, etc.

Not Applicable



All users can collaborate on adhoc projects, i.e. review status, share documents, etc. This section allows the user to report time against engagements and submit for approval.



Not Applicable



This section allows buyers to manage the approval and reconciliation of incoming invoices.



This section allows the user to report expenses against engagements and submit for approval.
This section assembles time, expense and fixed fee data into invoices which can be routed to buyers for approval

Customers

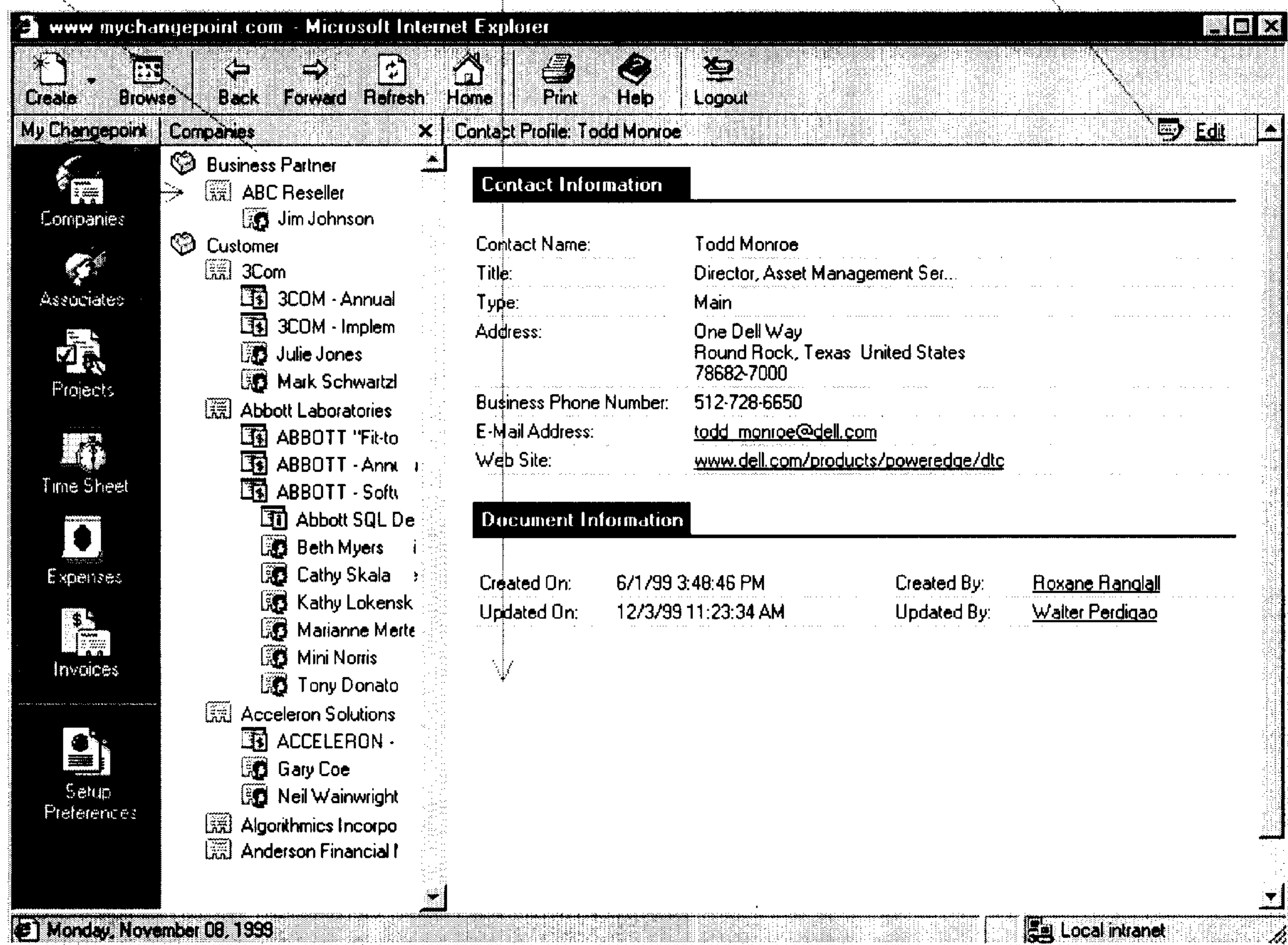
The Customers section provides access to all customers and contacts (the reference to "Companies" has been corrected to display "Customers").

Screen Mockup of Companies Section

Treeview is a categorized list of all companies, contacts and engagement. Note that all associates have access to this treeview although engagements may be hidden from some.

If the company or contact is a Changepoint registered member, the company/contact profile will be redirected to get up to date profile information. Rendered in the second half of the page in some cases.

Edit rights are controlled by the user's role. Some roles may not see the "edit" button.



The following screen shots represent the Express version of "Engagements". The functionality is significantly less than in the enterprise edition. For example;

- Product and support billings are removed (although they can still be achieved using fixed fees such as in 5.0 – 5.1)
- There is no concept of billing offices
- Inter-enterprise approval workflows have been removed
- Role-based billing is not supported

Screen Mockup of Engagement Dialog – Engagement Information Tab

Engagement - Untitled

Engagement Information

Service Rates

Fixed Fee Schedule

Approval Workflow

Engagement Name:

Customer:

Main Contact:

Engagement Status:

Eng. Manager:

Engagement Type:

Contract Amount:

0

Payment Terms:

Currency:

☐ Billable

Start/End Date:

to

Time Capture:

☐ Project & task required

Description:

Help

Save

Cancel

Note:
"Engagement Type" Picklist values can be "Hourly Rate", "Daily Rate" or "Fixed Fee".
The Express client does not have support for mixed engagements.

Screen Mockup of Engagement Dialog – Service Rates Tab

Engagement - Untitled

Engagement Information

Service Rates

Fixed Fee Schedule

Approval Workflow

Resources		Hourly Rates		
Requested	Assigned	Requested	Standard	Agreed
Project Mgr.	John Smith	150	200	175
Developer	Sandy Jones	100	100	100
Phil Johnson	Phil Johnson	100	110	100

Help

Save

Cancel

Note:
The "Hourly Rates" section changes to "Daily Rates" depending on the engagement type.

Screen Mockup of Engagement Dialog – Fixed Fee Schedule Tab

Engagement - Untitled

Engagement Information | Service Rates | Fixed Fee Schedule | Approval Workflow

Billing Date	Billing Amount	Deliverable Description	Billed
1/1/00	10,000.00	Phase 1 Beta	Yes
2/1/00	12,000.00	Site goes live	no
3/1/00	9,000.00	Phase 2 complete	no

Help Save Cancel

Screen Mockup of Engagement Dialog – Approval Workflow Tab

Engagement - Untitled

Engagement Information | Service Rates | Fixed Fee Schedule | Approval Workflow

Time/Expense Approval

☐ First Level Organization: Approver:

☐ Second Level Organization: Approver:

Invoice Approval

☐ First Level Organization: Approver:

☐ Second Level Organization: Approver:

Help Save Cancel

Note:

Two levels of approval have been added to support 3-way workflows. For example, an IT Department contracts a staffing company to supply a resource on site. The resource may need to submit the time sheet to the customer first for approval and then to the staffing company.

Associates

This section is similar to the "Employee" section in the CEE. It essentially lists all the users within a company of Express users thus providing personal directory pages and other miscellaneous contact features. Clicking on the Top level page, I.e. the company name, will display the company directory page which can be used for custom external links such as intranet content residing on another server.

Screen Mockup of Associates Section

Similar to the Enterprise Edition directory but only one level of hierarchy. Note - no expand/collapse is needed

Personal Home pages of users with typical functionality: contact info, picture, marquee, file sharing and online indicator. Edited only by user.

www.mychangepoint.com - Microsoft Internet Explorer

Create Browse Back Forward Refresh Home Print Help Logout

My Changepoint Associates Directory Profile: Bob Seller

Customers
Associates
Projects
Time Sheet
Expenses
Invoices
Setup Preferences

Bob & Doug's Consulting

- Bob Seller
- Doug Designer
- Jim Coder
- Nancy Webber
- Johnny Java

Employee Information Hello...

Employee Name: Bob Seller (online)
 Title: President
 Location: Richmond Hill
 Address: 1595 16th Avenue
 City: Richmond Hill
 Province: Ontario
 Country: Canada
 Postal/ZIP Code: L4B 3N9

Contact Information

E-Mail: bob@bobanddoug.com
 Office Phone: 905 886 7000 ext. 123
 Fax: 905 886 7023
 Home Phone: 905-123-4567
 Cellular Phone: 905-886-7777

File Attachments

None Defined

Additional Information

Monday, November 08, 1999 Local intranet

Projects

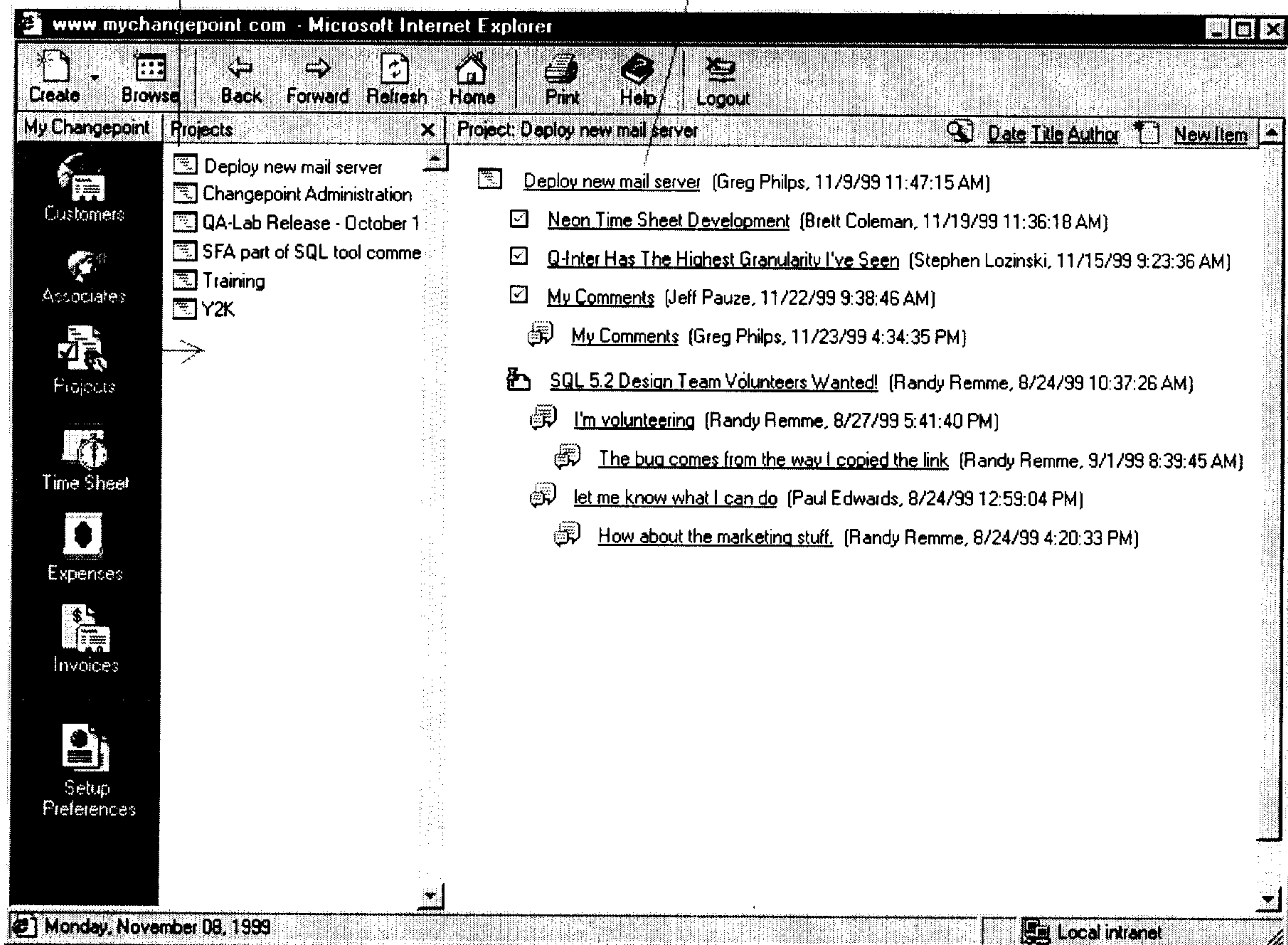
The complexity of the project, sub-project, task and assignment process that is supported in our Enterprise edition would pose significant training and ease of use issues with a light/free offering. As such we have removed the projects, tasks and assignments from the structured data hierarchy. I.e. Time and expenses in the Express client can be booked directly against an engagement.

Users who wish to manage projects within Changepoint Express can do so using the projects section as noted below. This section is actually "Team Folders" with the addition of project and task types.

Screen Mockup of Projects Section

The existing "team folders" code will be re-used and renamed to "projects". A new Task item type will be required and more detail might be required on the Project /team folder item

In the Express client, Project Management is more collaborative by design. Smaller organizations will not typically require the project management process nor more typical in large firms and IT departments. As such, threaded discussions, bulletins, attachments and other objects types are available



Time Sheet

The time sheet is a simplified version of our CEE browser timesheet. In the CEE version, a user must open the dialog and double click on tasks in order to populate their time sheet. With this version the timesheet is automatically populated with a list of all engagements and their corresponding customers. Linking a time record to a project and task will be optional in the Express edition (although it can be marked mandatory for any given engagement).

Screen Mockup of the Time Sheet and Time Entry Dialog

All Active Engagements are automatically populated on timesheet, thus time entry is simplified. A user need only double click in a cell and specify hours.

"Specify Project & Task" can be set as required on the Engagement setup dialog. Otherwise date and hours are the only required fields.

www.mychangeoint.com - Microsoft Internet Explorer

Create Browse Back Forward Refresh Home Print Help Logout

My Changeoint Time Sheet Submit New

Week Starting: November 28, 1999

Customer	Engagement	Sun 28	Mon 29	Tue 30	Wed 1	Thu 2	Fri 3	Sat 4	Totals
Development Administrat...	Miscellaneous Corporate...			5.00	5.00				10.00
Development Administrat...	Sales/Marketing Support		4.00			2.00	3.00		9.00
Development Administrat...	Staff/Department Manage...					2.50	2.50		5.00
Development Administrat...	5.2 SQL Edition				1.00	2.00	2.00		9.00
5.2 SQL Edition					2.00	2.00	2.00		10.00
					2.00				4.00
Totals		0.00	9.00	10.00	10.00	8.50	9.50	0.00	47.00

Monday, November 08, 1999 Local intranet

Unlike in the enterprise version, the weekly period will not be dynamic. It will follow standard calendar week, i.e. Sun-to-Sat

Expenses

Like the time sheet, the expense entry process is a simplified version of the Enterprise Edition. Users can log expenses against engagements and optionally tag them to projects. Once submitted, these expenses can be assigned to an invoice.

Screen Mockup of the Expense Section and Expense Entry Dialog

The screenshot shows a web browser window titled "www.mychange point.com - Microsoft Internet Explorer". The browser's address bar shows "www.mychange point.com". The browser's toolbar includes buttons for "Create", "Browse", "Back", "Forward", "Refresh", "Home", "Print", "Help", and "Logout".

The main content area is titled "My Change point" and "Expenses". It features a sidebar with navigation links: "Customers", "Associates", "Projects", "Time Sheet", "Expenses", "Invoices", and "Setup Preferences". The "Expenses" link is highlighted.

The main content area displays a table of expenses with the following columns: "Expense Date", "Engagement", "Type", "Billable", and "Total".

Expense Date	Engagement	Type	Billable	Total
Change point Social Events				
11/27/99	Xmas Party	Accommodation	no	50.00 CAD
11/27/99	Xmas Party	Taxi	no	40.00 CAD
11/27/99	Xmas Party			89.00 CAD
ABC Customer				
11/30/99	SQL 5.x Develop			4.50 CAD

An "Expense Entry" dialog box is open, showing the following fields:

- Company: Internal - Development
- Engagement: SQL Development
- Project: 5.2 SQL Edition
- Category: Meals And Entertainment
- Type: Meals
- Description: late night pizza's
- Expense Date: 11/29/99
- Amount: 35.00
- Currency: Canadian
- Notes: (empty text area)

The dialog box has "Save", "Reset", and "Cancel" buttons at the bottom.

The status bar at the bottom of the browser window shows "Monday, November 08, 1999".

Invoicing

Rather than using a treeview, an invoice manager can access invoices and unbilled time and expenses via an invoicer's home page. Similar to our enterprise edition, the invoicer will be reminded of customers in need of invoicing and other general processing requirements. The search bar can be used to access various time/expense/invoice reports or to select records by customer or engagement.

Screen Mockup of the Invoicing Home Page

Changepoint Express - Microsoft Internet Explorer provided by Changepoint Corporation

My Shortcuts: Invoicing | Invoice Workflow & Reminders

Unbilled Hours **Unbilled Expenses** **Unbilled Fixed Fees**

295.5	\$8,645.87	\$22,400.00
-------	------------	-------------

Draft Invoices

Customer	Invoice Number	Amount
Barnhill & Associates	DRAFT CPINC-501	13500.00
Internal - Development	DRAFT CPINC-105	-120.20

Invoices Pending Approval

Customer	Invoice Number	Amount
Castek Software Factory Inc.	CPINC-2000-00305	2617.30
Spectra Securities Software Inc.	CPINC-2000-00425	16100.18
SunGard Planning Solutions	CPINC-2000-00105	10000.00

Rejected Invoices

Customer	Invoice Number	Amount
Manufacturers Life Insurance Co. (The)	CPINC-2000-00426	14381.05
Netera Inc.	CPINC-2000-00511	2866.51

Approved Invoices

Customer	Invoice Number	Amount
EXE Technologies Inc.	CPINC-2000-00243	10687.50

Customer Details

Customer Name: ABC Company

Engagement Name: All

Search: Invoices, Time, Expenses

Tuesday, February 15, 2000 Local intranet

Setup Preferences

The Setup Preferences link will launch the "personal setup" dialog box. This will allow users setup and manage their contact information and personal system preferences. Within each Organization, at least one user will be given the "System manager" role. If a user has the system manager role, the Setup preferences link will prompt the user to choose whether they wish to launch the personal or organization dialog box. The contents of each of these dialogs is demonstrated in the following screen shots. Note that this is an area which will change often as the overall system design changes.

Personal Setup

Screen Mockup of Personal Setup Dialog – Contact Info Tab

Personal Setup

Contact Info | Address Info | Skills | Preferences

Daily Message

☐ Out of Office Details:

☒ Show Marquee Message: Hello...Welcome to my home page

Contact Numbers

Office Phone: 905-886-7000 Ext: 238

Fax: 905-886-7023

Home Phone: 905-880-3218 ☒ Hide From Guest Users

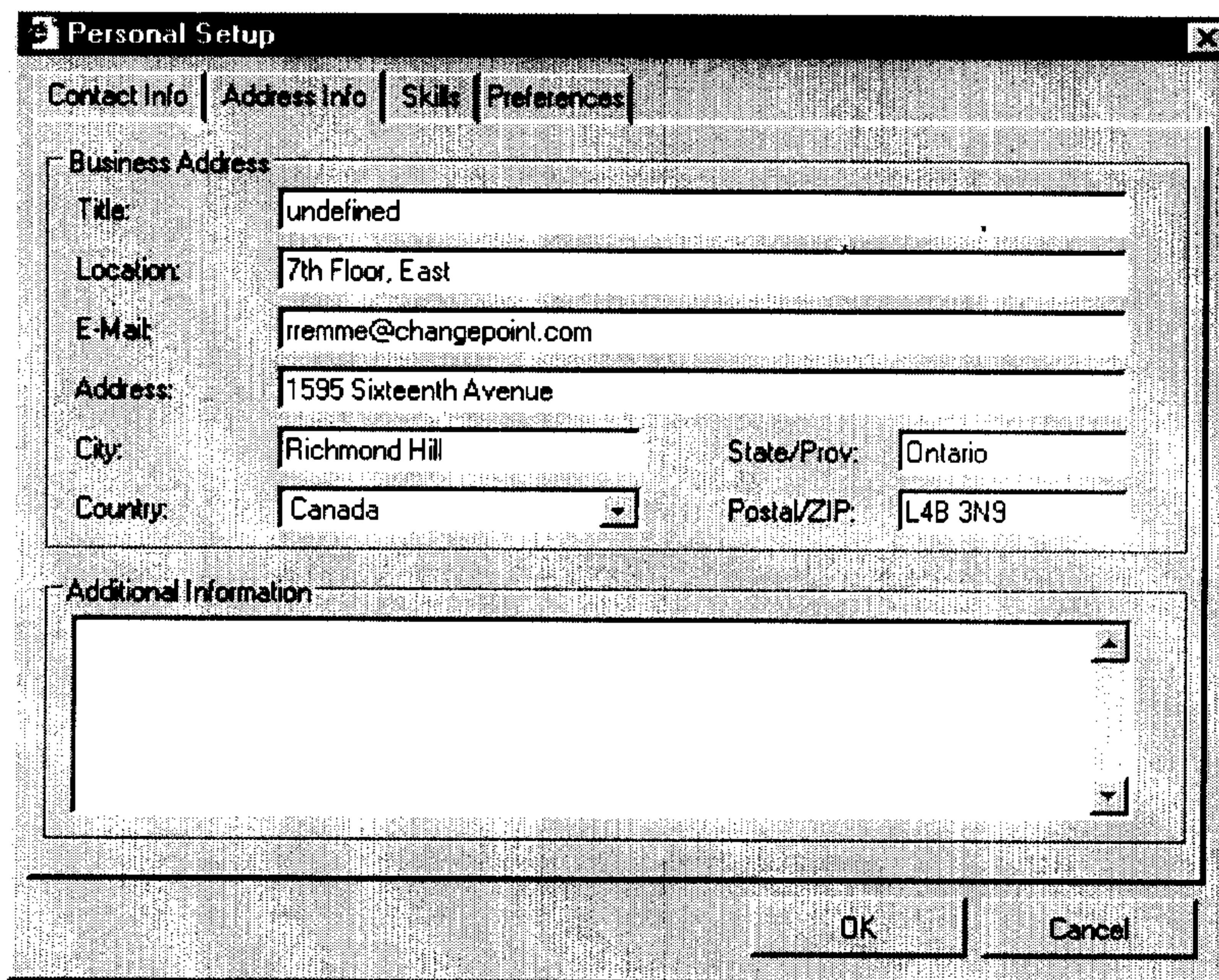
Cellular: 416-578-4400 ☐ Hide From Guest Users

Pager: ☐ Hide From Guest Users

Personal Picture

☒ Show Picture File Attach Picture

OK Cancel

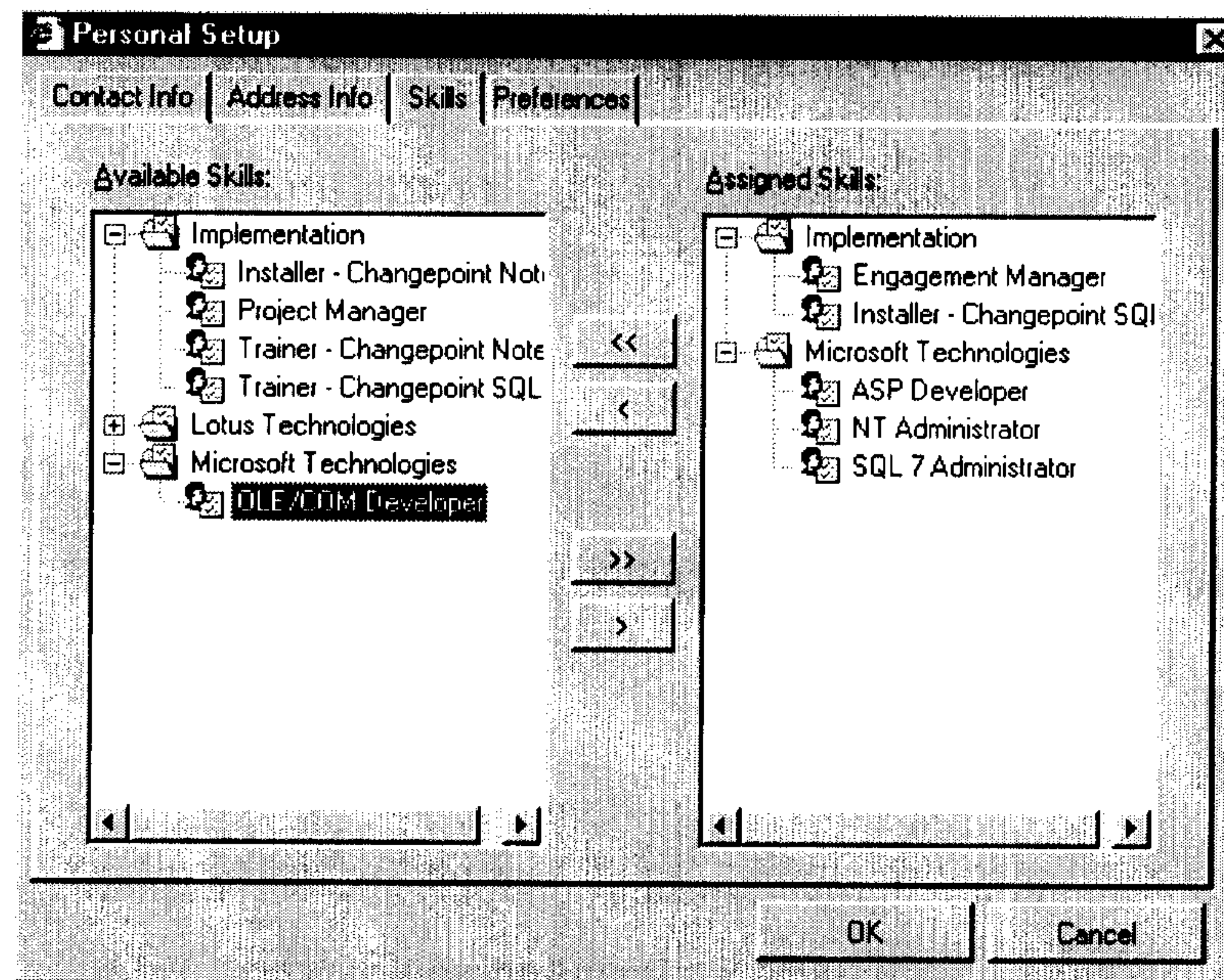
Screen Mockup of Personal Setup Dialog – Address Info Tab

The 'Personal Setup' dialog box is shown with the 'Address Info' tab selected. It contains fields for Business Address, Title, Location, E-Mail, Address, City, State/Prov, Country, and Postal/ZIP. The 'Additional Information' field is a large text area. The 'OK' and 'Cancel' buttons are at the bottom right.

Business Address	
Title:	undefined
Location:	7th Floor, East
E-Mail:	iremme@changeoint.com
Address:	1595 Sixteenth Avenue
City:	Richmond Hill
State/Prov:	Ontario
Country:	Canada
Postal/ZIP:	L4B 3N9

Additional Information:

OK Cancel

Screen Mockup of Personal Setup Dialog – Skills Tab

The 'Personal Setup' dialog box is shown with the 'Skills' tab selected. It displays two lists: 'Available Skills' and 'Assigned Skills'. The 'Available Skills' list includes Implementation, Installer - Changepoint Note, Project Manager, Trainer - Changepoint Note, Trainer - Changepoint SQL, Lotus Technologies, Microsoft Technologies, and DLE/ODM Developer. The 'Assigned Skills' list includes Implementation, Engagement Manager, Installer - Changepoint SQL, Microsoft Technologies, ASP Developer, NT Administrator, and SQL 7 Administrator. The 'DLE/ODM Developer' skill is highlighted in the 'Available Skills' list. The 'OK' and 'Cancel' buttons are at the bottom right.

Available Skills	Assigned Skills
Implementation	Implementation
Installer - Changepoint Note	Engagement Manager
Project Manager	Installer - Changepoint SQL
Trainer - Changepoint Note	Microsoft Technologies
Trainer - Changepoint SQL	ASP Developer
Lotus Technologies	NT Administrator
Microsoft Technologies	SQL 7 Administrator
DLE/ODM Developer	

OK Cancel

Screen Mockup of Personal Setup Dialog – Preferences Tab

Personal Setup

Contact Info

Address Info

Skills

Preferences

Hide Homepage Sections

☐ In/Out Status

☐ Find Person

☐ My Utilization

☐ Favorite Reports

☐ My Links

☐ My Changepoint

OK

Cancel

Organization Setup

Screen Mockup of Organization Setup Dialog – Basics Tab

Organisation Setup

Organisation Basics

Organisation Name:

Address Line 1:

Address Line 2:

City:

Main:

Province/State:

Fax:

Country:

Web Page: http://

Postal/Zip:

Home Currency:

Save

Cancel

Screen Mockup of Organization Setup Dialog – Tax Setup Tab

Organisation Setup

Organisation Basics | Invoice Numbers | **Tax Setup**

Tax1

Name:

Registration #:

Factor:

Apply tax to: ☐ Time ☐ Expense

Tax2

☐ Time ☐ Expense ☐ Tax1

Save Cancel

Screen Mockup of Organization Setup Dialog – Invoice Number Tab

Organisation Setup

Organisation Basics | **Invoice Numbers** | Tax Setup

Part A: Separator A: Part B: Separator B: Part C:

☐ Annually ☐ Use space ☒ Annually ☐ Use space ☐ Annually
☒ Never ☐ No separator ☐ Never ☐ No separator ☐ Never
☐ Every time ☒ Character ☐ Every time ☒ Character ☒ Every time
☐ On Part B roll over ☐ On Part C roll over

Next Rollover date: Allow invoice number override: ☐ Yes ☒ No

Default Payment Terms:

Save Cancel

Miscellaneous Client Design Issues

Performance - Performance will be critical! We must optimize the application to achieve fast loading and snappy performance over a dialup connection. This will be essential in swaying small business users over to a hosted solution. Scalability will also be directly related to system performance.

Application panes - The two left panes, I.e. Changepoint bar and treeview will not be resizable or closable as they are in the CEE. The Changepoint bar will be fixed width regardless of the window size. The treeview pane will be a percentage of the window, thus it will increase to accommodate larger screen resolutions.

Toolbar - The toolbar for the Express client has been given text labels below the buttons. This will provide un-trained users with an easy usage experience. As with our other clients, these toolbar buttons will appear in shades of gray and receive color when hovered over.

Picklist options - Picklist options will be defined in tables and configured in the system management console in much the same way as they are in CEE. The notable difference is that an end user will not have the ability to modify these values. We will need to carefully select these values to provide an appropriate list of options. For example, Company Types: Customer, Vendor, Reseller, Partner, Personal, Miscellaneous. We will have the ability to alter these values system wide based on user requirements.

Treeviews - Treeviews, such as the customer treeview, will be hierarchical but will not provide expand/collapse functionality. This will help to simplify the UI and make cross browser capability easier to achieve.

Authentication & Security - NT Unified login will not be an available option. We must therefore adopt an open standards browser based login technology that supports both Netscape & Internet Explorer browsers. SSL (secure sockets layer) and SET (Secure Electronic Transaction) protocols will need to be explored. Our current plan is to use Site Server's personalization and membership services.

Billing for use - Currently there is no plan to bill users for use of the Express Client. Listed below are some ideas on possible billing scenarios. This is important to consider now so that appropriate billing metrics can be captured and/or so that certain functions can be turned on/off based on subscription levels.

- Charge for Invoicing?
- Charge for going beyond upper limit on number of users from one company?
- Charge for phone support and/or training
- Premium charge for SSL or higher level ` of security

Futures - As a future option - "Download the Outlook Launch kit and MyChangepoint will be added directly into your Outlook client."

User Support & Training - User support should be available in several different ways:

- Online Help
- Online Tutorial
- FAQ's

- Automated email-back responses
- Telephone support (as a possible revenue producing upgrade)

Access Control, roles & Features – Changepoint's existing role and feature enablement model has proven to be a very effective means of dynamic UI delivery, feature control and user access. The Express client will apply a similar, but scaled down version of this model. Components of the solution will be defined and access rights given based on features, however we will assign features to roles at a global level. We will then expose between several predefined roles to the end user of the system to manage varying levels of access. The currently defined roles are as follows:

- System Management
- Invoice Management
- Engagement Management
- Consultant

Role	Feature Code	Feature	Description
Administrator	CA	Create Associate	The user can create associates
	CC	Create Companies	The user can create companies
	CCN	Create Credit Notes	The user can create credit notes
	CCT	Create Contacts	The user can create contacts
	CE	Create Engagements	The user can create engagements
	CI	Create Invoices	The user can create invoices
	CNM	Corporate News Manager	The user can manage corporate news
	CPJ	Create Projects	The user can create projects
	DA	Delete Associate	The user can delete associates
	DC	Delete Companies	The user can delete companiew
	DCN	Delete Credit Notes	The user can delete credit notes
	DCT	Delete Contacts	The user can delete contacts
	DE	Delete Engagements	The user can delete engagements
	DI	Delete Invoices	The user can delete invoices
	DPJ	Delete Projects	The user can delete projects
	EA	Expense Approval	The user can approve other user's expenses
	MA	Modify Associate	The user can modify associates
	MC	Modify Companies	The user can modify companies
	MCN	Modify Credit Notes	The user can modify credit notes
	MCT	Modify Contacts	The user can modify contacts
	ME	Modify Engagements	The user can modify engagements
	MI	Modify Invoices	The user can modify invoices
	MPJ	Modify Projects	The user can modify projects
	TA	Time Approval	The user can approve other user's time sheets
	VA	View Associates	The user can view associates
	VC	View Companies	The user can view companies
	VCN	View Credit Notes	The user can view credit notes
	VCT	View Contacts	The user can view contacts
	VE	View Engagements	The user can view engagements
	VI	View Invoices	The user can view invoices
	VPJ	View Projects	The user can view projects
Consultant	CC	Create Companies	The user can create companies
	CCT	Create Contacts	The user can create contacts
	CE	Create Engagements	The user can create engagements
	CPJ	Create Projects	The user can create projects
	MC	Modify Companies	The user can modify companies
	MCT	Modify Contacts	The user can modify contacts
	ME	Modify Engagements	The user can modify engagements
	MPJ	Modify Projects	The user can modify projects
	VA	View Associates	The user can view associates
	VC	View Companies	The user can view companies
	VCN	View Credit Notes	The user can view credit notes

Invoicer

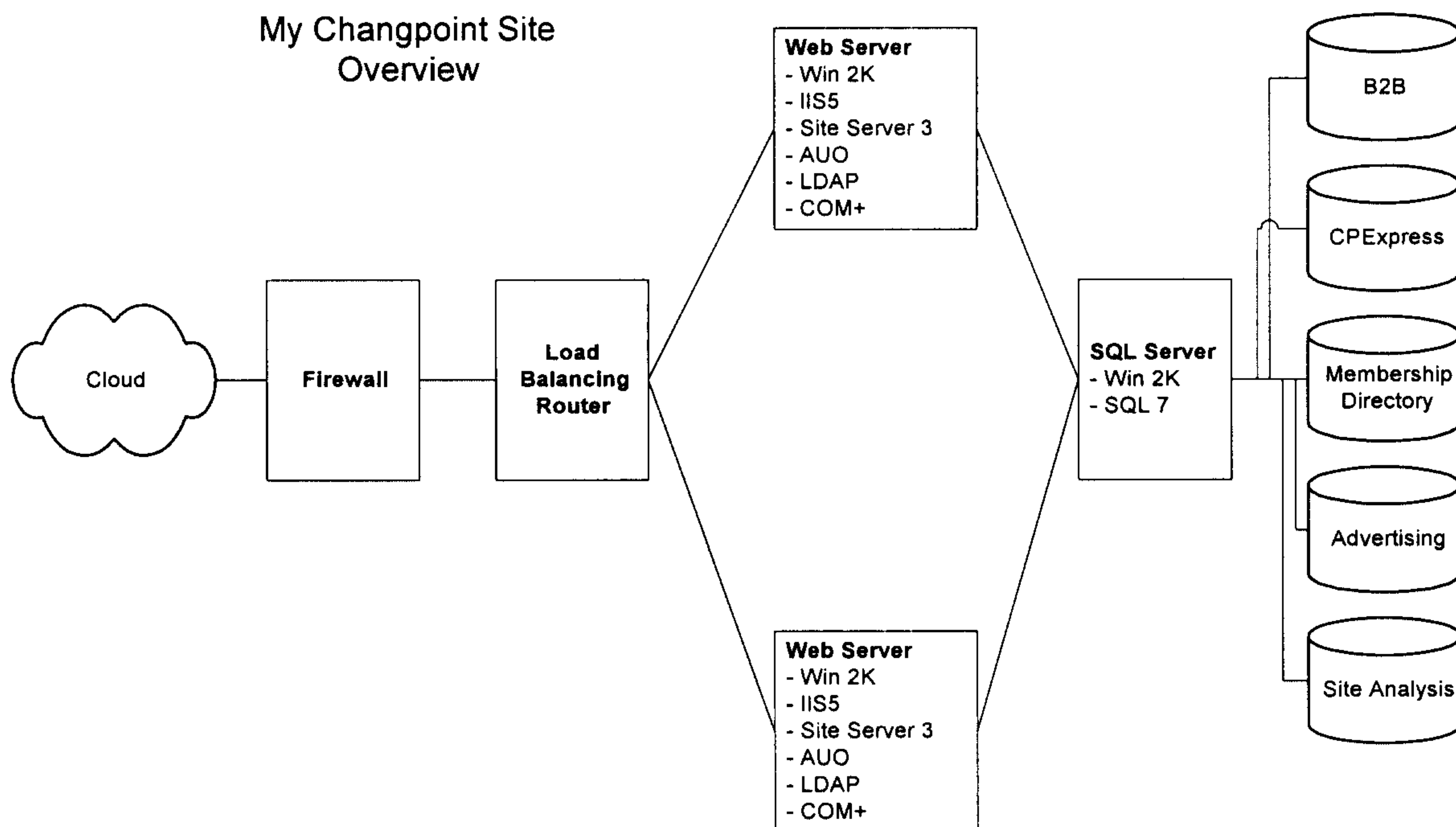
VCT	View Contacts	The user can view contacts
VE	View Engagements	The user can view engagements
VI	View Invoices	The user can view invoices
VPJ	View Projects	The user can view projects
CCN	Create Credit Notes	The user can create credit notes
CI	Create Invoices	The user can create invoices
CPJ	Create Projects	The user can create projects
DCN	Delete Credit Notes	The user can delete credit notes
DI	Delete Invoices	The user can delete invoices
MCN	Modify Credit Notes	The user can modify credit notes
ME	Modify Engagements	The user can modify engagements
MI	Modify Invoices	The user can modify invoices
VA	View Associates	The user can view associates
VC	View Companies	The user can view companies
VCN	View Credit Notes	The user can view credit notes
VCT	View Contacts	The user can view contacts
VE	View Engagements	The user can view engagements
VI	View Invoices	The user can view invoices
VPJ	View Projects	The user can view projects

Manager

CA	Create Associate	The user can create associates
CC	Create Companies	The user can create companies
CCT	Create Contacts	The user can create contacts
CE	Create Engagements	The user can create engagements
CNM	Corporate News Manager	The user can manage corporate news
CPJ	Create Projects	The user can create projects
DC	Delete Companies	The user can delete companiew
DCT	Delete Contacts	The user can delete contacts
DE	Delete Engagements	The user can delete engagements
DPJ	Delete Projects	The user can delete projects
EA	Expense Approval	The user can approve other user's expenses
MA	Modify Associate	The user can modify associates
MC	Modify Companies	The user can modify companies
MCT	Modify Contacts	The user can modify contacts
ME	Modify Engagements	The user can modify engagements
MPJ	Modify Projects	The user can modify projects
TA	Time Approval	The user can approve other user's time sheets
VA	View Associates	The user can view associates
VC	View Companies	The user can view companies
VCN	View Credit Notes	The user can view credit notes
VCT	View Contacts	The user can view contacts
VE	View Engagements	The user can view engagements
VI	View Invoices	The user can view invoices
VPJ	View Projects	The user can view projects

7 - Technologies & System Management

The MyChangepoint site will reside on a collection of Microsoft BackOffice Server Products with software components built using Microsoft's Visual Interdev. The architecture will be three-tiered following Microsoft's DNA architecture whereby the business logic will reside in a COM layer running on MTS. Microsoft Site Server, Commerce Edition will provide a wealth of pre-built portal hosting capabilities at nominal cost.



Hardware

The following hardware estimate should support the site from launch through the first 6 months. We will monitor the site and its performance through the beta period and adjust the infrastructure accordingly. An MTS server and/or additional web servers can be added as required to support greater capacity.

1. Web/App Server (Win 2K, IIS5, ASP, COM+, Site Server, LDAP)

2 x P3-500 (upgradeable to 4 way)

1 GB RAM

2 x 9GB HDD (RAID 1 - mirror giving 9GB eff. storage. SYS - 2GB, DATA - 7GB)

1 Array Interface card

2 x 10/100 MB/s Ethernet card

2. DB Server (Win 2K, SQL Server 7)

2 x P3-500 (upgradeable to 4 way)

1 GB RAM

2 x 9GB HDD (RAID 1 - mirror giving 9GB eff. storage. SYS - 2GB, LOG - 7GB)

3 x 9GB HDD (RAID 5 - striping w/ parity giving 18GB eff. storage. DATA -18B)

1 Dual Channel Array Interface card

2 x 10/100 MB/s Ethernet card

Platform

Microsoft Windows 2000 Server

Microsoft SQL Server 7.0

Microsoft Transaction Server (MTS)

Microsoft Internet Information Server (IIS) 5.0

Microsoft Site Server, Commerce Edition

Changepoint Software Components

MyChangepoint Public Site

MyChangepoint Express Application

System Management components

Third Party Components

Active File (for browser upload)

System Management

The site will be managed using Microsoft Site Server, Commerce Edition. This is a bundling of e-commerce server products from Microsoft that will help us to build the site faster and focus more on our value added area of expertise. The next section covers Site Server's features in more detail.

In addition to Site server's "out-of-the-box" capabilities, we will build MMC snap-ins that will add controls for Changepoint specific functions into the Microsoft Console. Most of these snap-ins will be copied from our Enterprise Edition System Manager application. The following Changepoint snap-ins will be required:

- Picklist Value definitions
- Skills Setup
- Roles Setup – mapping features to roles
- ...

Session Tracking

In Changepoint 5.2 session tracking was implemented to prevent a single user from being logged on through several sessions at the same time. Necessitated largely by the statelessness of the browser, this helped to ensure data integrity by preventing multiple edits of the same record at the same time.

There were also several side benefits derived from session tracking:

- Since we were tracking sessions (I.e. logins) we were able to report against usage such as number of logins by user, logins by client, duration of logins, login times, etc.
- Secondly, we made use of a user's logged-in state to support "who's online" indicators and collaborative features such as integration with Netmeeting for chat, paging, etc.

With MyChangepoint session tracking will be even more important to support eventual billing, monitoring and load balancing.

8 - Microsoft Site Server

Site Server Commerce Edition 3.0 is a superset of the Microsoft Site Server product. It includes all of Site Server's features for dynamically publishing content, searching content and the delivery of content in multiple formats. Microsoft Site Server Commerce Edition includes additional features to help manage the e-business aspects of a Web site. The following lists identify some of Site Servers capabilities relevant to MyChangepoint's requirements.

Personalization and Membership

Membership lets you easily manage users and user profiles for high-volume sites. Secure access to any area of the site, supporting subscription or "members only" applications. Personalization enables the delivery of custom content based on the site visitor's personal profile and supports targeted promotions and one-to-one marketing.

Direct Mailer is an easy-to-use tool for creating a personalized direct e-mail marketing campaign based on Web visitor profiles and preferences.

Membership Server provides the software infrastructure for efficiently managing secure access to Web sites and site content, with the ability to scale to support millions of visitors. Authentication can be based on cookies, Basic and HTML forms, challenge/response, and certificates.

Ad Server

Ad Server manages ad schedules, customers, and campaigns through a centralized, Web-based management tool. Target advertising to site visitors based on interest, time of day or week, and content. In addition to providing a potential source of revenue, ads can be integrated directly into Commerce Server for direct selling or lead generation.

Site Server Analysis

The Site Server Analysis tools let you create custom reports for in-depth analysis of site usage data. Create industry-standard advertising reports to meet site advertiser requirements. Classify and integrate other information with Web site usage data to get a more complete and meaningful profile of your visitors and their behavior. Enterprise management capabilities enable the central administration of complex, multihomed, or distributed server environments. Supports 28 Web server log file formats on Windows NT, UNIX, and Macintosh operating systems, including those from Microsoft, Netscape, Apache, and O'Reilly.

Commerce Order Manager gives direct access to real-time sales data on your site. Analyze sales by product or by customer to provide insight into current sales trends or manage customer service. Allow customers to view their order history online.

Commerce Server

Dynamic merchandising provides support for easy, real-time administration of product and price promotions from any remote Web browser through the Promotion Wizard. Intelligent CrossSell uses previous shopper trends to automatically make recommendations.

Order Processing Pipeline handles targeted functions—such as product tax, shipping and handling charges, payment authorizations, and inventory checks—according to specific business rules. It can be integrated with existing systems and can also be extended with many products from independent software vendors.

Commerce Interchange Pipeline enables applications to exchange information using the Internet or an existing EDI system. Because the Commerce Interchange Pipeline is data format-independent and transport-independent, businesses of all sizes can communicate securely. The Commerce Interchange Pipeline supports native Web formats such as XML and HTTP as well as those from numerous independent EDI software vendors.

Integration with Microsoft Transaction Server—a transaction processing system included with the Windows NT Option Pack—allows Site Server to provide site and application developers a business-critical solution that offers significantly higher reliability in business transactions.

Dynamic catalog generation creates custom Web catalog pages on the fly using Active Server Pages to directly address the needs, qualifications, and interests of visiting customers.

Rich object model manages products, users, and orders. It supports schema and database independence, enabling businesses to integrate their existing business rules and data with their online presence.

Buy Now, a powerful online marketing solution, lets you embed product information and order forms in most online contexts—such as online banner ads—for quick, spontaneous purchase by consumers.

Commerce Host Administrator, a control center for site administrators and Internet hosting service providers, enables the centralized administration of multiple commerce sites while allowing individual site managers to update their sites remotely

Built-in Microsoft Wallet support helps businesses provide customers with the most convenient and secure online payment experience.

Industry-standard security creates a secure environment for customers, partners, and site/application administrators with strong, integrated HTTP Authentication and Windows Challenge Response. Site Server Commerce Edition supports real-time credit authorization with secure transaction protocols such as SSL and Secure Electronic Transaction (SET).

Commerce Server Software Developer's Kit (SDK), a set of open application programming interfaces (APIs), allows full extensibility across the entire Order Processing and Commerce Interchange Pipelines.

Microsoft Site Server Commerce Edition pricing and licensing information can be found at <http://www.microsoft.com/siteserver/commerce/>.