Best Practices with Extranets for Collaboration

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Overview

The author has been using extranets for over ten years for the development of new projects and renovations of existing facilities in the multi-family, commercial, energy and retail industries. During that time, many best practices have come to the surface and have been further refined. This white paper describes a number of those best practices and also includes links to other white papers and articles having more detail about the individual best practices.

WELCOME MEMO

Many times we introduce team participants to an extranet for their first time. We have found a "Welcome Memo" a very effective means to both invite and achieve their participation. The Welcome Memo is the first extranet communication we send to all new users.

Sample Welcome Memo Contents

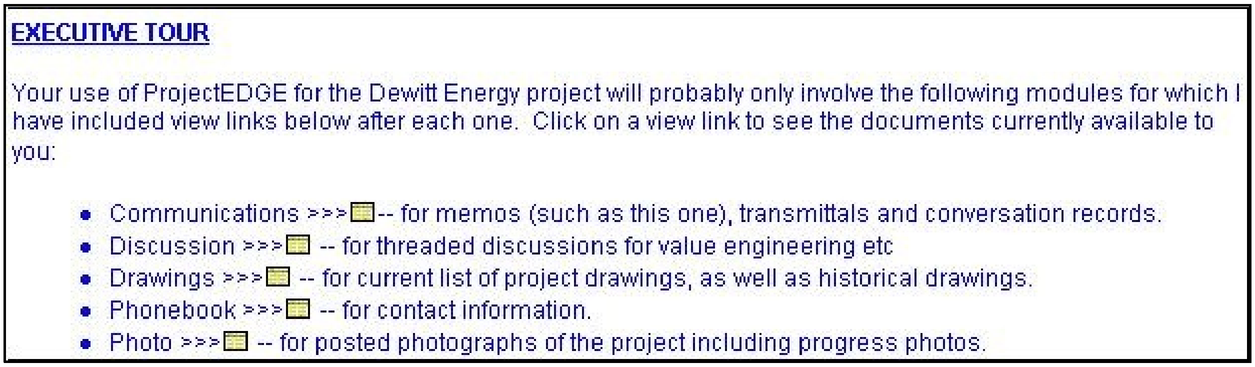
Our typical Welcome Memo includes a welcoming message that provides a brief description of the project and why the person is being invited to participate in the extranet. We provide the person's user name and password separately by e-mail so that they are able to access the Welcome Memo in the extranet database and return to it as often as needed for the information that is in there. We provide a link to an overview description of the database so that the new participant can access as much or as little of the introductory material as needed.

HELP and Training

We also describe to them how to find detailed HELP. We typically provide a very brief outline instruction, which we find almost always is all that is needed. With a well structured Welcome Memo and with some embedded links, we don't have to provide any other training for most users.

Welcome Memo Executive Tour

We include an Executive Tour of the extranet database to introduce the participant to meaningful content so that they achieve value right from the very beginning. We typically tell them what extranet modules we expect them to use as you can see from the following graphic that shows a portion of the Welcome Memo with tour links.



EXECUTIVE TOUR

Your use of ProjectEDGE for the Dewitt Energy project will probably only involve the following modules for which I have included view links below after each one. Click on a view link to see the documents currently available to you:

- Communications >>> -- for memos (such as this one), transmittals and conversation records.
- Discussion >>> -- for threaded discussions for value engineering etc
- Drawings >>> -- for current list of project drawings, as well as historical drawings.
- Phonebook >>> -- for contact information.
- Photo >>> -- for posted photographs of the project including progress photos.

Figure 1 Sample Executive Tour with links to modules.

SINGLE SOURCE FOR INFORMATION

Extranets provide the opportunity to create and use a single source for the latest information available concerning an organization's endeavors. Having a single source or a location where all authorized persons can turn to for the latest template or other information prevents your stakeholders from wasting time and effort by dealing with outdated information.

Process Owner

Each type of information should have a single custodian or "process" owner of the information who has the responsibility to maintain the information with the latest updates and improvements. Many organizations have centralized electronic filing systems and perhaps even a Virtual Private Network (VPN) where information can be stored and made available to authorized internal persons. Making that information available to extended team members who do not have access to the central files or the VPN is an excellent use for an extranet.

Our Best Practice

In our development projects, we begin with a proforma and/or budget/estimate that is updated from time to time. Whenever updates occur, all users of the information can be assured of using the latest updates if they all maintain a discipline of returning to the same source for the information.

Avoid Separate Downloads

Everyone has to avoid the temptation of downloading a separate copy to their local computer or other disk. As soon as they do that and then rely on that copy for going forward, they run the risk of facing their next action on information that has been updated without their being aware of it. Additionally, anyone they pass their superceded version onto will suffer the same fate.

Updates

Depending upon the type of update made by the process owner, it could be important to make any updates in as short an interval as possible. If the information being updated is a proforma, budget or other time sensitive information, the interval between extracting the information from the original source and replacing with the updated information should be as short as possible. Depending upon the characteristics of the extranet involved, it may be possible to lock out other users from accessing the information when an update is underway. At the least, the person making the updates should post a message in the source indicating that an update is in process and then remove that message as soon as the update has been replaced.

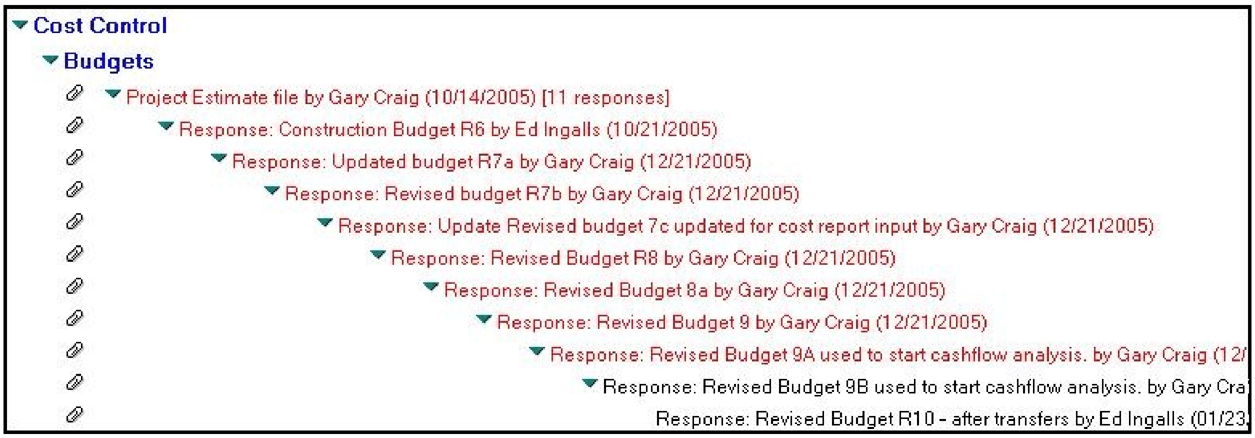


Figure 2 Example of our Best Practice containing current budgets/estimates

CATEGORIES

The more categorized the extranet information is, the more valuable it will be. Whenever possible, the categories established by the sponsor organization should try to minimize uncontrolled growth of categories which creates a very flat structure that makes locating similar documents difficult.

Recommended Approach

The recommended approach is to establish an organization wide default category list that is at least two levels deep, which means that each document can be coded with a master and subcategory designation. Each organization's categories should be customized for their needs. Here are several general rules that you can follow to set up those categories.

1. Develop the category list in a sortable document such as a spreadsheet or word processing table.
2. Develop the major category list along with likely subcategories. Enter the major category opposite each minor one so that the list is sortable by major and then minor.
3. Continue to expand the major list while making an effort to keep the list as concise as possible.
4. Sort the list by subcategory and then major category to see if any other entries become apparent.
5. Sort the list by major and then minor category.
6. When the category list is completed, post the category list so it can be used by all. If the enterprise is engaged in widely varying activities, it mayl be necessary to develop specialized category lists.

LINKS

You have probably experienced the value of hyperlinks (web URLs) in leading you to information of interest. You can do the same with extranets to add value to your readers' experience by using links to organize information and documents for them.

Links can provide access to relevant documents with a few clicks of a mouse. If the author of a document adds links to other relevant material, readers can quickly access the supporting or underlying material without having to search for it.

Example of the Use of Links in RFPs

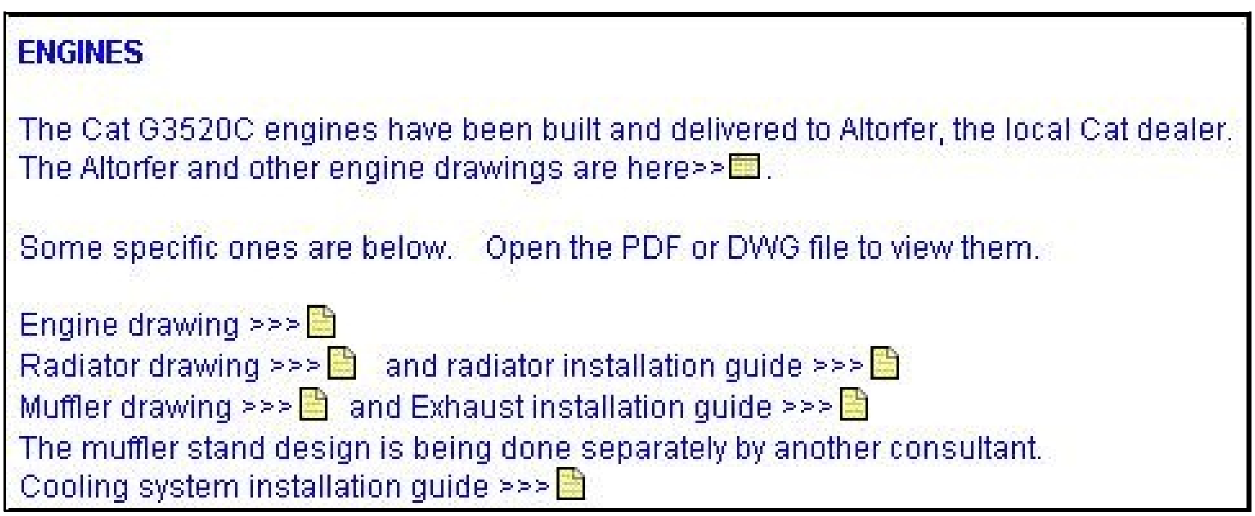
You can develop requests for proposal in an extranet by linking to the scope of work and adding links to any conceptual drawings in the extranet. If there are relevant boiler plate provisions, forms or standards, they can also be readily incorporated with links. Consultant reports, photos and any required background can be added by links.

A single page of text can link to many pages of information about the proposal needs. We recently used this approach to bid a mechanical design scope of work by creating a user name and password that we distributed to interested bidders so they could access all the information needed to develop a response, all without any paper.

PREPAREDNESS RESPONSE TEMPLATES

This white paper assumes that users would create a protocol of responses for each type of preparedness event that could be anticipated. Some typical events are listed below:

- Accidental Spill/Release
- Test/Training Exercise
- Biohazard Spill/Release
- Chemical Based Hazard/Spill
- Petroleum Based Hazard/Spill
- Evacuation Plan
- Fire or Smoke Event
- Flood Event
- Hurricane or Tropical Storm Event
- Earthquake


ENGINES

The Cat G3520C engines have been built and delivered to Altorfer, the local Cat dealer. The Altorfer and other engine drawings are here>> .

Some specific ones are below. Open the PDF or DWG file to view them.

Engine drawing >>>
Radiator drawing >>> and radiator installation guide >>>
Muffler drawing >>> and Exhaust installation guide >>>
The muffler stand design is being done separately by another consultant.
Cooling system installation guide >>>

Figure 3 Sample from a design RFP showing links to the various conceptual drawings

Example of a Preparedness Protocol	
Action	**Responsible Party**
Receive notice of significant and white-out conditions.	General Manager
Implement snow emergency plan.	General Manager
Evacuate non-essential personnel.	General Manager
Shut down non-essential equipment.	Plant Manager
Implement roof watch for significant snowfall accumulations.	Plant Foreman
Emergency snowfall removal if depth thresholds are approached or exceeded.	Plant Foreman
Cancel or delay subsequent shifts.	Plant Manager
Emergency snow removal from roof if required.	Plant Manager
Resume operations after storm event has subsided and roadway travel restrictions are lifted.	Plant Manager

Table 1 Outline Preparedness Protocol for extreme winter weather

A sequence of tasks could be identified that occur for a particular type of emergency. The list of protocol action items would include predefined primary responsibilities, alternates and response times that are implemented when needed. When a particular type of action or group of actions is required, the standard sequence can be loaded immediately and implemented with a few clicks. As many templates, as needed, could be developed and held in reserve.

Supporting Drawings

Some project or facility drawings might be needed during a preparedness event. Such drawings could include a site plan, utility service plans, floor plans, as well as one line diagrams showing shutoffs or disconnects for such major systems as HVAC, electrical, plumbing and fire protection.

For more detail, follow this link to the Emergency Preparedness and Response white paper and this link to the Enhancing Preparedness Through the Use of Extranets article.

ROLL-OUT

Any organization having a defined roll-out process or a sequence of tasks for any purpose, could use an extranet to set up a template for each set of items. The templates would have a description of each task to be performed along with assignments of persons responsible and their alternates so that when a new project or series of tasks is initiated, the sequence can be implemented with a few clicks and then tracked on an item by item basis until each is completed.

Roll-out Uses

Uses of such a roll-out could include the following:

- Roll-out of a new location, and
- Loan or purchase/sale closing checklist, and
- Due diligence for a proposed seasonal location, and
- Periodic condition assessment of existing facilities requiring inspection by many different disciplines or trades.

For more detail, follow this link to [The Use of ProjectEDGE for Roll-out of Pop-up Stores] white paper.

EXTENT OF USAGE

In any organization, the extent of usage of an extranet will vary as a result of the sharing culture of the organization and of its personnel. Organizations with a sharing culture and a mechanism for sharing their knowledge are more likely to achieve participation from their personnel. However, it is unreasonable to expect the participation from everyone since not all individuals are inclined to share their information with others unless absolutely forced to do so. We find that many individuals will take the time to read information in the extranet, but seldom, if ever, contribute to its content. While not the ideal, having the information read by these persons creates overall value for the organization and should not be discounted.

Dissemination of Usage Rights

We see the most successful extranets being those in which there are a large number of people who have user names and password and use them. We have seen benchmark extranet success at public university construction projects with several hundred authorized users ranging in roles from high level university administration and faculty to the foreman level of subcontractors. In the most wide open projects, we see communication and collaboration going on at several levels.

Communication Levels

The first and most obvious level is between the client organization, its professional design team and its contractor(s). The second and less obvious level is the communication back and forth between subcontractors who find an extranet to be a very efficient way for them to exchange information about coordination and other items of mutual interest.

In the public bidding arena, the owner may not have the same degree of latitude as a private owner does in selecting construction forces willing to share information and also provide a mechanism for their subcontractors to share information. Extranet usage is often a bid request, but the extent or depth of participation is often not specified. Where it is not, usage should be lead by example.

Known Keys to Success

We have seen time and again that an extranet with a wide user base and a sharing attitude results in a better product, delivered faster with improved quality. One of the best keys to success is the active participation of a recognized and respected champion who leads the rest of the organization, by example, in productive use of the extranet.

COLLABORATION

Core team members should collaborate by defining the roles and responsibilities of each of the team members and their supporting organization. We recommend that such teams use a matrix in which all of the development related tasks are listed along with who has primary responsibility. Alternate or supporting responsibilities should also be noted to provide everyone with a clear guide of where to turn for particular decisions or work product in the event of no response.

SERVICE ITEM	REQUIRED		OWNER RESP	AGENT OR CM RESP.	OTHER RESP (LIST PARTY)	REMARKS
	YES	NO				
1. PERMITS						
a. BUILDING	X		P			
b. AIR QUALITY		X				
c. SITE PLAN	X		P		A	Engineer is Alternate
d. SUBDIVISION	X		P		A	Engineer is Alternate
e. CERTIFICATE OF OCCUPANCY	X		A	P		
2. BUDGETING						
a. INITIAL	X		P		S	Consultant
b. CHANGE ORDER	X			P	S	A/E
P = Primary, A = Alternate, S = Supporting						

Table 2 Showing responsibility entries for a typical project

Collaboration through Communication

The extranet participants can collaborate in the content of any communication document by passing the document back and forth from one to the other electronically while it is in a draft stage. Such collaboration could pull in more specific information such as legal or consultant advice where needed. These might be paced by action items.

Extranets can use Contact Management tools to pass collaboration discussion information to the team members. When team members collaborate with contact management tools, they share their experience or other knowledge with whomever in a common document or in a series of linked documents so that everyone is always operating off the best knowledge base.

Even the results of instant messaging can be captured into the contact management to record collaboration that occurred.


Conversation Record

Project:	The Ledges	Project Number:	9937
Subject:	**Paths, arborist letter, and green berm**	Conversation Date:	12/19/2005 16 11:54 AM
Type:	Telephone Conversation (Initiated Call)		
Participants:	Michael J. Moore, W. Gary Craig		

Conversation Record:
12/19/05 WGC & MJM discussed

Gary Craig/ESCL...	what was used for non-erosive material on paths? Steve Peck never added that note and we should tell him what was actually used
Mike Moore/Ed...	are you asking about the areas that were experiencing erosion problems .... what alternate material was used?
Gary Craig/ESC...	yes, Deb wanted a non-erosive material
Mike Moore/Ed...	i will find out what to call the material and get back to you.
Gary Craig/ESC...	OK
Mike Moore/Ed...	they used a bluestone stonedust instead of the sandy material that was used previously.
Gary Craig/ESC...	it stays in place better?
Mike Moore/Ed...	that is what we were told .... it compacts tighter
Gary Craig/ESC...	I will tell Peck
Mike Moore/Ed...	ok ... they also placed stone and built footbridges over a couple of locations
Gary Craig/ESC...	do you know you know the source?

Figure 4 Sample of a capture of an instant messaging session into a Conversation Record

For more information about the ProjectEDGE extranet usage on the multi-family project in this graphic, see the eWeek article at this link ProjectEDGE Software Building on Collaboration.

Threaded Discussion

Threaded discussions are a powerful collaboration tool in which an author creates a topic before publishing the topic to other team members and participants for their responses. Each of the collaborators respond to the topic with their own comments, clarifications and other relevant material. Any authorized person can follow the threaded discussion from the initial topic through the subsequent responses and provide responses wherever appropriate to provide corrections, clarifications etc. to the information. Some of the types of collaboration done using threaded discussions include:

- Developing and refining architectural/ engineering programs
- Processing value engineering suggestions from their initial surfacing to final acceptance or rejection
- Analyzing process improvements and/or business process re-engineering
- Creating a knowledge base of information to capture project decisions and create a best practice library

Figure 5 Sample of Value Engineering for modular retaining walls on a sitework project

DUE DILIGENCE

Due diligence checklists can be managed very effectively in an extranet by beginning with a listing of due diligence items that are developed from as many sources as possible. Each item on the due diligence checklist is set up as a response document in a threaded discussion. The header or main topic document for the discussion can be a table with all of the checklist items in summary form containing such information as:

- Item number
- Item description
- Responsibility
- Status
- Link to the detail

Restricted Access

The access to due diligence items can be restricted on a need to know basis so that only the participants who need access to certain documents are given that access. As an example, the environmental consultant should not have access to income statements.

Newsletter Format Status Reports

Since information may be loaded to the individual due diligence topics by many persons, we use a newsletter type of approach to update all the participants on the current status of the due diligence quest. In doing such a newsletter, we provide a brief status indicating new or updated items in each entry by their due diligence item number and then send everyone a notice directly from the extranet. There is no faxing or mailing involved and everyone receives the notice moments after the most recent update is added.

E-MAIL vs. EXTRANETS

We have probably all experienced e-mail users who indiscriminately reply with history including the attachments when no change was made to them. Suddenly, you could find yourself with your e-mail getting clogged with multiple identical copies of large files because several people are all doing the same type of response dragging the history along with them. Not only is your e-mail becoming loaded with all the duplicate copies, but so is theirs and everyone else in the thread that is being passed back and forth.

Extranet Efficiency

In an extranet, you can post a single version of those files and refer everyone to them. Their responses can all be threaded to the same documents, but don't have to send the duplicate files back and forth.

Who Has the Latest Information?

We have a business acquaintance who has not yet discovered the efficiency that extranets could bring to him and to the persons on his distribution list. Our acquaintance updates his information so frequently that his subject lines typically bear not only the date but the time of his transmission. The frustrating part of it for all of us who deal with him is that typically the changes in the information are very slight.

Our acquaintance would be better served if he used an extranet like we used for the due diligence effort so that he could post his information as frequently as needed. All of us on his distribution list would receive a notice from the database informing us of the update and, best of all, when we went there, we would find the most recent information without having to go through the several iterations of his updates and without bulking up our e-mail files.

WEB CONFERENCING AND EXTRANETS

When web conferencing and extranets are used together, two plus two equals five (or more) due to the leverage you can achieve by using both of these products together.

Web conferencing can be made more effective by attaching data files to a web conference meeting as they can be reviewed before, during and after a web conference. The web conference material can also include direct links to an extranet for additional material or in the event that your web conferencing application does not allow a large amount of the attachments.

Long Term Web Conference Sessions

You can use long term web conference sessions by establishing a duration web conference. As an example, your author reestablished a 100-day long web conferencing session for use in collaborating on the design and construction of an energy power plant. By having a long term meeting established, each of the team participants can jump immediately into it and continue collaboration.

For more details, follow this link to the Collaboration Using SmartBoards, Web Conferencing and ProjectEDGE white paper.

SUBSCRIPTION

Users should subscribe to extranet documents whenever that feature is available so they receive an automatic notice when the document that was subscribed to is updated. For example, by subscribing to a site plan drawing, any time that drawing is updated with new access gate information, any first responder who subscribed to the drawing would receive an automatic notice of the update. As a result, the extranet will automatically provide subscribers with access to the current information.

When we add users to our project development databases, we automatically subscribe the new users so they are given notice whenever updates are made.

ENCOURAGING BEST PRACTICE

The leaders of any organization should enable the building of best practice repositories as extranets and should encourage their personnel to develop best practices and make them available for the rest of the organization.

Best Practice Collection

One national consulting firm ends their project assignments with having the project team identify the five best and the five worst practices for that particular assignment. Those results are then passed on to a committee who screens the submissions and decides which ones should be published for use within the entire organization. Over time, the compiled best practices become a very useful tool for team members to use responding to future assignments.

Best Practice Contest

While every organization cannot do so, we found that a best practice contest is an effective way to get many of your personnel involved in sharing their best practices. Our method of conducting such a contest is described in the article Capturing Best Practices.

For more information on ProjectEDGE, white papers or demonstrations, visit our web site at www.projectedge.com or contact us at 888-516-EDGE, Fax 315-471-6659 or e-mail at info@projectedge.com.

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