The Limitations of Acrobat 9 Pro for Document Collaboration

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This whitepaper is a technical review of how Adobe Acrobat 9 Pro supports collaboration. But first, *collaboration* is a rather vague, imprecise and all encompassing term that is not helpful in clarifying what the real objective is. So before proceeding, the author would like to introduce a new term, "Document Collaboration", which is defined as the ability to present or share documents in real time while simultaneously annotating and marking them up.

Acrobat 9 Pro provides three separate methodologies to support completely different types of "Document Collaboration": **ConnectNow**, **Collaborate Live** and **Shared-Review**. In addition, Acrobat 9 introduced the **Acrobat.com** server from which you can choose one of these solutions. Acrobat 9 Pro also includes a Google Documents-type web-based word processor, Buzzword, that is implemented with Flash but is not a topic for this review.

ConnectNow is a *show & tell* "**screen-sharing**" browser based tool similar to Cisco's WebEx and Citrix's GoToMeeting that enables participants to view a host's or another participant's screen.

Collaborate Live is a new feature that synchronizes page views for a presentation to a live audience but does not support participant markup.

Shared Review is an upgrade of the asynchronous (i.e. not simultaneous) check-in/check-out review solution that was in Acrobat 7 and Acrobat 8.

This review describes "what" these tools as rather than as "how" they do it and, hence, does not include screen shots so as not to distract the reader.

ConnectNow

ConnectNow implements a live meeting with attendee "**screen-sharing**" and remote control. ConnectNow requires that both the host and the remote attendee's workstations have Adobe Flash 9 installed in their browsers. "**Screen-sharing**" can be restricted to your desktop, selected windows or selected applications

When the host selects "Collaborate > "Share My Screen" from the Acrobat 9 Pro menu, Acrobat opens a web browser window with a secure link to the Acrobat.com server for your meeting. ConnectNow uses a Flash module to convert the host's screen image to a "Shockwave Flash (SWF)" file to minimize the file size, and then uploads that file to the Acrobat server for distribution to the attendees.

ConnectNow then opens its own window. The ConnectNow window asks the host to invite attendees to a meeting. After requesting to invite attendees to a meeting, ConnectNow opens the host's email program and creates an email containing a secure link (e.g. https://connectnow.adobe.com/Host1) to the meeting on the Acrobat server. The host enters the attendee email list in the "To" field and sends the email. The free version of ConnectNow that comes with Acrobat Pro and all other applications in Creative Suite 4 family supports 2 attendees.

After sending the email, ConnectNow asks the host to share his/her screen with the attendees. When the host selects "Share My Screen" the large ConnectNow window is closed and a smaller window is opened on a different screen layer that displays the Attendees, Chat, Shared Notes, WebCam, and a ConnectNow Annotation option.

When an attendee accepts the meeting invitation by clicking on the secure meeting URL included in the email, an HTML file is downloaded to the invitee that requests his/her name. When the attendee enters their name, the HTML file downloaded also contains a JavaScript program that downloads and publishes the Flash image file of the host's screen in the attendee's browser.

After entry into the meeting, the host can give keyboard/mouse (i.e. KBM) control to the attendee by choosing his/her name from the attendee list and selecting the "Role" option from pull down list. Although an attendee can be given KBM control, the host's KBM can override the attendee's control at any time. The host role can be assigned to a participant who can also share their screen.

ConnectNow also has its own set of annotation, or markup tools whose toolset can be selected from the bottom of the ConnectNow window. When selected, the ConnectNow markup toolset is placed on a screen layer above the currently focused application. The ConnectNow markup tools are also placed on the same layer.

When a ConnectNow markup tool is selected, the toolset retains focus and disables the host's other applications. To regain application control, the ConnectNow markups must be deselected. The ConnectNow markups are not preserved and disappear when the ConnectNow markup tools are deselected.

ConnectNow is vulnerable to security breaks from PDF, Flash, and your browser. You can checkout the current break status of these tools at www.secunia.com and www.labs.idefense.com.

Here's a partial list of the limitations of ConnectNow:

- Source documents are **<u>not</u>** distributed to participants, only host's current screen image.

- High network bandwidth speed is required for effective collaboration due to the amount of image data that needs to be sent back and forth.

- Flash distorts the image/text/color of the original document.

- Only host can introduce a document for review.

- Participants' comments are entered as if the host made them.

- If the ConnectNow window covers part of the host's application menu, those menu items cannot be accessed by the attendees.

- ConnectNow markups are only temporary and are not preserved when deselected.

- True application cursor is replaced with ConnectNow cursor, which can confuse participants and hide small details.

- ConnectNow supports only 3 participants.

- Email invitations are sent using the host's email client which can be problematic.

A major conclusion of this review is that you can't use "**screen sharing**" tools for "Document Collaboration". Just like you can't use a Phillips-head screwdriver for a flat-head screw, it doesn't matter which "**screen sharing**" tool you use: Adobe Connect, Cisco WebEx , Citrix GoToMeeting or whatever. "**Screen sharing**" tools are for "*show & tell*" not "Document Collaboration". They just can't do the job; they are all equally deficient.

<u>Collaborate Live</u>

Collaborate Live is a presentation tool for a host to distribute a PDF document and share page views with a live audience. Participants must have Acrobat 9 or Reader 9 to follow the host's presentation. Only one PDF document at a time can be active in a Collaborate Live session. Any annotations or markups that the host makes are not sent to the participants. Similarly, any participants' markups are not also sent to the host or other participants. **Collaborate Live** also includes a chat facility for participants.

When you select a PDF for **Collaborate Live**, you are presented with a dialog screen to select the PDF document for presentation. When you select the PDF, "_collab" is appended to the document name. After this, Acrobat 9 Pro opens your client-based email program and composes an invitation with the PDF attached.

Upon receiving an email invitation, a participant clicks on the PDF document attached to the email, which downloads the file from the Acrobat.com server and opens the participant's web-browser with Acrobat 9 or Reader 9. The user is also presented with a window to enter their email/password and join **Collaborate Live.** Upon joining the participant is presented with a window to start page sharing and also includes a chat facility.

Once all the participants have joined the session, the host and other participants can start "Page sharing" to synchronize page views with the audience. All participants can select a page for the other participants to view simultaneously.

The fundamental limitations of **Collaborate Live** are:

- Host's markups cannot be simultaneously replicated to the other participants.

- Participants' markups cannot be simultaneously replicated to the other participants.

- Reader rights enabled PDF documents (as used with **Shared Review**) **cannot** be used.

- Page movements by a participant who has not selected page sharing can be confusing.

- Host role cannot be transferred to another participant.

- Only one document can be presented and shared with participants.

- Email invitations are sent using the host's email client which can be problematic.

Shared Review

Acrobat 9 Pro includes an upgrade to the legacy feature of **Shared Review** that was supported in Acrobat 7 and Acrobat 8. One of the upgraded features is that the PDF document can be stored and retrieved from the Acrobat.com server in addition to the Acrobat 8 source list of network server, WebDAV server or SharePoint workspace.

Shared Review is a simple check-in/check-out asynchronous (i.e. not simultaneous) solution that enables a participant to add annotations and markups and publish them to a hosted server. Participants don't see another participant's comments until the other participant publishes them and the other participant asks for them to be downloaded from the server.

Acrobat 9 Pro allows Reader 9 users to add comments provided the PDF has been enabled for Reader comments. It needs to be pointed out that PDFs enabled for Reader comments can NOT be used with **Collaborate Live**.

When you select a PDF for "shared review", you are presented with a dialog screen to select the server type and path and then select the PDF document for review. When you select the PDF, "_review" is appended to the document name. After this, Acrobat 9 Pro opens your client based email program and composes an invitation with the appended name of the PDF with a URL link.

Upon receiving an invitation, a participant clicks on the URL which opens a participant's web-browser and the user is asked if they want to download the PDF for **Shared Review**. Upon agreeing, the browser opens Acrobat 9 or Reader 9 and redirects the user to the PDF.

At this point, a participant can add their comments and markups to the PDF, but they are not uploaded to the server until the user clicks on the "Publish" icon. If a participant wants to see another participant's comments they must click on the "Update" icon to have them downloaded to their own copy of the PDF.

Acrobat 9 Pro has renamed the notification feature of Acrobat 8 Pro to "Tracker" within Acrobat/Reader and also in the system tray. The system tray displays the following text when you mouse over it: "Adobe Tracker has active notifications. Double click icon tray to open Tracker". Once notified you must accept the comment(s) before they can be downloaded. However when you open a PDF all previously entered comments re downloaded. Automatic notification in "Shared review" is an attempt to simulate live collaboration although it can't replicate page changes.

The fundamental limitations of **Shared Review** are:

- Asynchronous (not simultaneous) architecture does not enable participants to see comments and markups live.

- Inability to support live presentations

- Markups can be very slow and take many minutes to be received by participants.

- Conflicts with "Collaborate Live" for Reader_enabled PDFs.

- Email invitations are sent using the host's email client which can be problematic.

In conclusion, Acrobat 9 Pro has aggregated three different, hard to use, conflicting and less than fully robust methodologies. And although there is a great need to reduce travel in these economic times that "Document Collaboration" addresses, Acrobat 9 Pro collaboration features do not provide a single, unified, and acceptable solution.