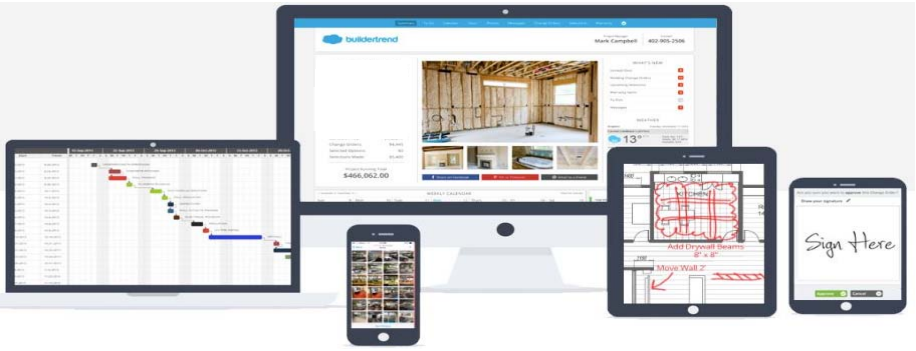
CONSTRUCTION CONTRACT ADMINISTRATION SOFTWARE for ARCHITECTS



Contents

INTRODUCTION	2
SOFTWARE OVERVIEW	3
CONTRACT ADMIN. VS. COLLABORATIVE SYSTEMS	4
CCA / OAA SURVEY	9
SELECTION OF SOFTWARE	10
CCA WITHOUT CCA-SPECIFIC SOFTWARE	11
SOFTWARE REVIEWS	15
CONCLUSIONS	27

CONSTRUCTION CONTRACT ADMINISTRATION SOFTWARE for ARCHITECTS

INTRODUCTION

Construction contract administration (CCA) is considered by some architects as the most vexing stage of project execution. It can be overwhelming if the tasks of logging, tracking, routing and review of thousands of documents are done manually or with only rudimentary tools to help.

This article has been prepared by the OAA Construction Contract Administration Committee (CCAC) to provide information on CCA specific software products available for architects and additionally discuss how standard software, such as MS Word and Excel, can best be used by practices who choose not to invest in specialized CCA software. It is based on results from an OAA province-wide survey and the experiences of individual architects with specific software.

The CCA committee is comprised of members who are sole practitioners, or who represent small, medium, large and very large practices – all members agree that in order to do CCA so that it is both time and cost effective, it is essential to either use specialized programs for CCA or alternatively to develop standard procedures and templates with everyday software.

SOFTWARE OVERVIEW

Most of us are familiar with Microsoft Excel spreadsheets with rows and columns of numbers, values, dates, names and calculations. A step up from a spreadsheet is a database. A database might be described as a 3D version of a spreadsheet – like a Rubik's Cube. MS Access, MySQL and FilemakerPro are database management programs. They do have a learning curve but some architects have found them quite usable to keep track of costs, hours and all historical data on all their projects. Once past the initial learning curve, databases can be much more powerful, and faster than spreadsheets.

CCA software programs use databases to manage the information and display it in different templates, tables, and charts. Unlike spreadsheets, the data in a cell of a database retains its information no matter where it is placed, making displaying data in different formats very easy.

The features of various CCA software applications can be divided into the following categories:

Database - for numbers, dates, values, the names of documents these numbers attach to, dates for changes etc.

Contacts – is a subset database with team member contact information for use on documents issued and emails that a notification system will use.

Forms - standard forms like Change Orders, Certificate of Payments, Schedule of Values, etc. are simply a different way to 'view' the database information. The forms use the database numbers plus the contacts information plus fixed format for titles, logos etc. to create specific documents. Where a system resides on a user's own server it is reasonably easy for the user to modify standard forms which are used for all projects or any particular project. Where the system resides on a vendor's server, typically the vendor must make the change.

Notifications database - whereby the notification plus the attached item are recorded and retained in the database 'file'. A notification can be triggered by an email or issuing a Change Order or revised drawing. It includes issuing a shop drawing, receiving comments back or approvals of a Change Order from a client. Some, but not all systems retain and track the actual documents transmitted including drawing files, at different revision dates, so that they can be retrieved and compared to a different version.

Cloud - reference to the cloud means that information and data is stored on a remote server. This remote server is usually very large compared to any office server, to have secure and reliable back-up, and can be accessed by log-in via the internet from your office or any other location with internet access. If you cannot connect to the internet– you do not have access to your information. Some, but again not all, references to the cloud imply that information at many user locations is automatically updated all at the same time.

Specialized software for CCA can include features that can be used prior to construction where drawings are circulated, marked-up comments are added and tracked, review meetings are set up, logged and in some cases recorded. The bigger software developers in this arena are seeing possibilities to expand the uses of their products.

CONTRACT ADMIN. VS. COLLABORATIVE SYSTEMS

BY MARK POTTER, HINES

This overview is intended to compare and contrast a variety of products available to architects, engineers, contractors and trades by first separating these "solutions" into two main types, Contract Fulfillment and Collaboration. Some products take on only one role, while others attempt to do both. Some are designed mainly for one party, such as the architect or the contractor, while others are designed to provide value for all project participants.

Collaboration Tools

Design and construction activities involve many different parties and are a natural fit for a "collaboration" approach in which a shared data platform facilitates the execution of a common task, (the Project) by a team of individuals employed by a variety of organizations frequently across wide separations in geography and specific motivation.

Project collaboration tools center on a number of organizational objectives;

- Contract document control
  - shared document access control
  - editing and version control
- Process control
  - workflow design and enforcement
  - tracking information throughput and blockages
- Project Communication
  - Either "in-mail" or can be integrated with industry standards (MS Outlook etc.)
  - Documentation of written communication
  - Automated / semi-automated metadata

Collaboration can take place entirely within the design, management, or the construction members or among the entire team. Collaboration solutions (sometimes referred to as "groupware") are not necessarily designed specifically for design and construction.

Contract Fulfillment / Contract Administration

Technically, contract administration of any type is the measurement and management of contractually defined deliverables. Contractual deliverables are defined by contract documents such as drawings and specifications, referenced standards within the contract documents and the contract itself. Deliverables include the principal exchange of value contemplated by the contract principals, typically the Owner and the Contractor. The contractor builds and the Owner pays – or so we hope.

Tools that assist with Contract Administration are usually designed to help the contract administrator measure the fulfillment of these contract deliverables. Fulfillment can be assessed along various measures of completion through tracking of payments, holdback, submittals, requests for information, field reviews and reported deficiencies and contract scope changes.

Contract fulfillment tools are usually designed for the contract administrator and, although they can be shared, they need not be shared outside the administering organization.

Mandated Use

The question of which organization will provide either a contract fulfillment or collaboration platform significantly affects how the platform will be used and its effectiveness. In today's environment, it would not be uncommon for an architect to use one contract management solution, the owner to use another and the contractor another still. So much for collaboration.

Owners often have the ability to mandate the use of a particular platform, often with mixed results.

COLLABORATION SYSTEMS – WHAT THEY DO

Collaborative tools are typically tailored to the needs of documentation and process control for large projects. These tools are often sponsored (paid for) by the Owner or the Contractor which can lead to interesting results such as Owners, Contractor and Architects using different tools and having to settle on a single or multiple tool approach.

The value proposition of a collaborative platform depends on both the sponsorship arrangement and the specific design approach of the tool in question. Some collaborative tools offer a decided advantage to the sponsoring party while others are inherently "neutral" in nature. For the architect and consulting team, it's important to understand and try to avoid a situation in which one is working to the contractor's agenda throughout the administration of a construction project. Contractor-controlled tools are notorious in their ability to make the consultant team appear unable to keep up with workflow demands while the more neutral platforms tend to report status without bias.

When sponsored by Owners, Contractors or Architects, these platforms typically seek to accumulate project data on a capital program to provide important statistics across individual project boundaries such as program wide cost and schedule variances between planned and actual, claims related opportunism by different contractors, information throughput effectiveness of consultant groups and other measurements.

Unlike tools designed specifically for Contract Administration, Collaborative platforms can be used during pre-design and design development phases – they're designed to manage communications, decisions and documents rather than the specifics of contract fulfillment and administration.

Collaborative Tools typically manage: Documents, Processes and Communication.

Document Control

Folder vs. Metadata storage

Traditional document control follows standards borrowed from the pre-computerized world of paper storage in steel file cabinets. Within collaborative tools, documents are sometimes filed electronically within an analogous folder structure resembling an electronic filing cabinet grouped by project, type, originator, date etc.. This is particularly found with tools built on (Microsoft) SharePoint platforms. Like traditional filing methods, successful folder based document storage and retrieval requires diligence or process control to ensure that documents are correctly "filed".

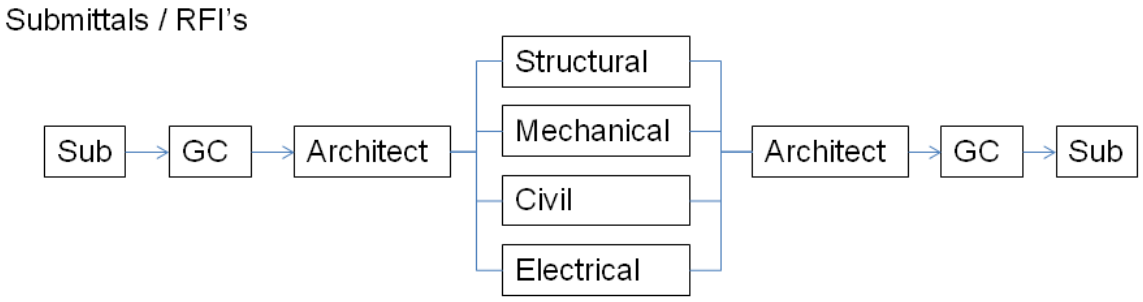
An alternative document storage / retrieval method is the database approach in which all documents are filed as objects with metadata search fields applied either automatically, or by the system user. This

approach is more typical of a document management system of the type used by law firms to manage "matters". Database stored document control requires that all documents have correct metadata; either of the automated (creator, date of system entry, access rights, title, version) or of the user-entered type (version, title, etc.). Generally, more automated metadata entry and process control to prevent incorrect tagging assists in ensuring that documents remain searchable.

In either approach, documents will have "access rights" allowing them to be read, edited, deleted and transmitted. Most systems will allow a document to be posted with any access granted by the document originator. This approach would allow a team to develop designs, share drawings confidentially within the design team, and release them to the constructor only when ready.

Process control

Process control through a collaborative tool involves enforcement and tracking of agreed routing flow, and timeline management of the normal processes surrounding contract administration and fulfillment. Traditionally, workflow routing was generally taken for granted; things worked predictably and well. With the advent of email, this well-ordered world of workflow management descended into chaos with subtrades able to directly email sub-consultants to obtain quicker turnaround. Collaborative tools are typically able to reinforce agreed document routing within large and small project teams. They are by nature generic and flexible enough to accommodate industries as diverse as industrial design, mining, development and construction.



The diagram above illustrates a conventional workflow routing for a typical project. Collaborative tools specific to the construction industry can generally be custom configured to ensure that processes such as submittals and RFI's happen in predictable and measurable ways. Such automated workflow management makes tracking easier by identifying blockages and resource problems.

Project Communication and Documentation

Some project communications such as face to face meetings are documented in meeting notes or minutes which can be then housed securely as documents within a collaboration system. It is possible to create forms for such communications although they are not necessary.

Other communications, such as informal discussions and telephone conversations resist attempts at documentation despite their high level of importance to the successful outcome of a project.

The most readily documented communications method is email, either specific to the project and embedded within the collaboration platform, or more generically through software such as Outlook, the

global standard email channel. Many collaboration tools are fully or partially integrated with Outlook making after-the-fact; assembly of project communication straightforward. Some project sponsors mandate that all project related correspondence be done through the collaborative email channel although compliance to such an extreme is unusual.

Examples of Collaborative Tools

- Constructware (Autodesk)
- Trimble (Meridian) Prolog (US)
- 4Projects (UK)
- Aconex (Australia)
- EDgebuilder
- Bentley ProjectWise
- E-builder(US)
- NEC3 Contracts Management BIW Technologies (UK)
- SharePoint – Microsoft
- Newforma (US)

CONTRACT ADMINISTRATION TOOLS – WHAT THEY DO

Contract Administration (CA) tools are more specifically tailored to the needs of the administering architect and the consulting team. Although the majority of solutions offer collaboration with the Owner and Contractor to streamline communication with the teams, the value proposition accrues chiefly to the contract administrator. User costs are therefore often carried by the architect.

Similar to collaboration tools, these solutions can be delivered via internet (ASP) or housed on a private server.

CA tools are normally suitable for a wide variety of project scales, and are ideal for firms that either lack a comprehensive approach to administration or have an objective to create a more uniform approach by a variety of administrators. These tools are designed specifically for contract administration, often within a particular regulatory framework (Canada, US) and handle the following:

- General Functionality (varies widely with specifics of CA tool)
    - Project Directory
    - Document Access Control
    - Task List / Dashboard
    - Meeting Records
    - Email / Notification
    - Digital Signature
    - Automated Reports
    - Mobile Device Compatibility
- Prebid Design Development / Consultant Collaboration
- Contract Documentation
    - drawings
    - schedules
- Project Budget
- Bidding

    - Bid Issue
    - Prebid queries
    - Clarifications and Addenda
    - Letters of Acceptance
- Contract
- Contract Administration
    - Payment certification
    - Field Review
    - Submittal Review – automated routing and response
    - Requests for Information – automated routing and response
    - Supplemental Instructions / Proposed Changes
    - Change Orders – automated migration to payment certification
    - Drawing and Specification Management

Being more specific to the CA role, these tools are easier to use than more generic collaborative platforms and are generally more streamlined to the needs of the Architect. Examples include:

Canadian

- StatsLog (Ontario)
- Onware (Alberta)
- Rforms (PEI)

US and other

- PraestoAE (US)
- TotalSynergy (Australia)
- ETrack (Australia)
- Newforma (US)
- Buzzsaw (Autodesk)

SUMMARY

There is an enormous variety of solutions available at a wide range of price levels. Generally, Contract Administration solutions are most appropriate to Architectural and Engineering firms seeking to stay organized and efficient. The larger collaboration style solutions are more generic as they are designed to handle a wide variety of project types and user profiles such as military, product development, automotive, mining, construction, development and government. It is entirely possible that a constructor or owner could mandate the use of a collaboration platform which may, or may not preclude the simultaneous use of a CA tool.

CCA / OAA SURVEY

The OAA issued to all architects a survey with questions related to how CCA was done, what software was used with what features etc. The results of the survey show that there is not consistent use of specialized CCA software by architects in Ontario nor is there a single program that stands out as the most used. Many firms use standard programs such as MSWord and Excel for CCA purposes. This article discusses both CCA software and the "No CCA Specific Software" option and ways to increase effectiveness.

Of note are the following results from the survey:

The size of the firms responding were equally divided (approximately 33% each) between:
less than 5, 5 to 20, and more than 20 persons.

The average number of projects in the construction phase per year were:
5 to 20 – 50%, 21 to 50 – 23%.

Is your construction contract administration software of good value?
Agree 37%, Agree Somewhat 24 % - subtotal 61%

The percentage of respondents using various means of CCA were: (totalling more than 100% as some firms use more than one method)

Rform	**18%**
Statslog	**10%**
Newforma	**5%**
Onware	**1%**
Own (custom) database	**6%**
Basic software (Excel, etc.)	**70%**

Although there are many programs from the US and Europe the survey shows that in Ontario the two Canadian developed programs (Rform and Statslog) are the most prevalent.

With CCA specific software considerable organization may still be required to some degree. Whether one chooses the route of special CCA Software or "No CCA-Specific Software" it is the understanding and 'buy-in' of the workflow and processes that are likely to be paramount to the success of the use of software for CCA purposes.

SELECTION OF SOFTWARE

When selecting a software product for CCA use, the following are some of the questions to consider:

How does it work?
- does the program sit on your server or the vendor's server ?
- is access from remote locations available such as at site, or in another city?
- is it flexible / scalable for small or large projects office/project type size?
- Is it just a means to facilitate process tracking, sending, and receiving or does it do more?
- does it dictate process for communications? Automatically track and log?
- do others need to also have (buy) it?
- Is use by the entire team essential; is it detrimental or indifferent to benefits of the program if they do not?

What does the software include?
- do you have to purchase other software to make everything work – such as sharing in the cloud or marking up drawings or pdfs?
- are all the forms that you use included - SI, PCO, CCN, CO, PC, CD?
- does it include Field Review reports, deficiency list reporting, close-out documentation and collection?
- does it create Logs (RFI, SI, PC/CO, other)?
- does it include an FTP-like function to share files and drawings with others on the team?

Support and Customization
- can you modify forms, templates or tables? If not can you request theses be modified for your office's use?
- is help/support an extra cost? How reachable are the technical support people?
- will the program remain in the marketplace – or will it go out of date or no longer marketed and supported?
- is it flexible / scalable for small or large projects?

Consider what added functionality a software package will provide you, the learning curve, additional or savings in time and costs, and how it will be integrated into both your own and your team's project workflows.

Consider that use over time can allow customization of the programs and templates to streamline your use more and more, but at times a program which is not customized, that is ready to use out of the box but allows little customization can be more user-friendly with a shorter learning curve which may be more important if there are often new people using the system such as owners, contractors or new staff.

CCA WITHOUT CCA-SPECIFIC SOFTWARE

Increasingly one hears more and more about automated construction contract administration (CCA) software for the Architecture, Engineering and Construction industry. One option for architects that is often lost in this discussion is the "No CCA-Specific Software" option – using the standard selection of tools that every office is likely already equipped with, at a minimum. This includes software as we are now inextricably tied to our computers, but is limited to the now familiar and basic suite of software that includes CAD software, organizational (the computers operating system, which enables saving, sharing, filing), communications (e-mail, web browser), documentation and tracking (word processing, spreadsheets, databases), collation/finishing and mark-up/redlining software (PDF viewer) – along with high speed internet, and maybe a couple of screens to get us closer to a less-paper office.

The common software suite referenced in this article is Windows, Windows based Servers, Microsoft Office (Outlook, Word, Excel and Access), MS Office 365 (includes Word, Excel, Outlook, tablet access, file storage and sharing) and Adobe Acrobat. There are of course many other options including software for Apple IOS based systems, as well as alternate software, to any number of specific titles mentioned below, that can achieve all of these functions. Some of the alternates are available for free or at minimal cost.

A great resource for establishing your own templates, file structures, and protocols are the RAIC Canadian Handbook of Practice for Architects and their available Forms (free), the OAA website CCA pages, and CCDC 24, *A Guide to Model Forms and Support Documents.*

The "No CCA-Specific Software" option can be summed up for comparison as follows:

- The basic suite of software our offices are equipped with generally include everything needed to administer a project. Standard software facilitates customizable workflows and protocols, works with other programs (i.e. other consultants need not use all of the same programs or revisions of programs).

- The creation of the documents, forms, templates, logs, and standards must be done by the user, but numerous resources are available. Likewise, filing is up to the user and is not automated, but can be simple and efficient (drag-and drop) with a little attention paid up front to naming conventions.

- The user interface, workflows and protocols are highly customizable, and are quite flexible allowing for variances between users, companies, etc. They are also scalable for a wide range of project scopes.

- FTP functionality is available and straightforward. With newer versions of software (e.g. MS Office 365), synchronization and availability of files from remote locations, mobile devices, etc. is greatly enhanced and also straightforward.

- The learning curve is minimal, most people will already be proficient in the average functionality, and with minimal self-teaching advanced functionality is easily implemented. Furthermore using these tools to create and manage ones CCA processes and documentation offers the benefits of learning through doing. Not unlike drafting (by hand) v. BIM, through this work one can better understand, manage and communicate their intent - something that is often neglected when using

specialized software and pre-automated processes where one might entirely complete tasks without fully understanding the reasons for, or implications of them.

- The cost of the "No CCA-Specific Software" option can easily be argued to be $0, given that most offices already need and own a basic suite of software such as that mentioned above and there may be no additional cost (save for upgrading or annual subscription plans).

While standard office programs are used every day, we may use only a fraction of the capabilities of any given program. With a little extra consideration, the "No CCA-Specific Software" option can be quite viable for larger firms and larger projects too, offering a straightforward and economical means of streamlining, even automating, many of the CCA processes and workflows. It is worth looking at the capabilities of various standard software programs and how they relate. For example:

Microsoft Windows and Windows Server Operating Systems (OS):
- The operating system and Windows Explorer is the filing system.
- Since Windows 7, the OS syncs up very well with all related programs giving one the ability to preview files without opening them.
- With Windows Server and/or Office 365 creating an FTP site and sharing or accessing documents from other offices or mobile devices is fairly straightforward, with the ability to restrict or allow access as needed.

Microsoft Office Suite:
Microsoft – Outlook:
- We use it for most of our correspondence these days, transmitting documents back and forth to all parties.
- One can set up templates that are automatically updated and available on all office computers for essential functions (e.g. Memo's, Distribution and Review or Action Requests for Shop Drawings, RFI, etc.) – thus standardized and controlled from a single point/person ensuring consistency
- Filing e-mail correspondence is as simple as drag and drop from Outlook to the correct file, additionally separate and all encompassing .pst files can be set up, with access granted to other team members.
- In addition to scheduling meetings, it is a good tool for organizing: Tasks can be set up and tracked for oneself and for employees, meetings, and workflow.
- Especially since the 2010 version and Office 365, this also syncs very well with the (OS), ensuring our mobile devices are up to date with meetings, tasks, peoples schedules and that files are readily available.

Microsoft – Word
- Word needs little additional explanation of its basic uses. One item to note is the ability to set up office templates for various standard documents that are also automatically updated and available on all office computers for essential CCA functions (e.g. SI, PC, CD, CO, etc.) - again standardized and controlled from a single point/person ensuring consistency. With only a little effort, Word can be customised to perform the math necessary to prepare certificates for payment if you prefer Word to Excel. By using "fields", your templates can prompt the user for specific information and present the information in multiple places in a document as needed. Far more sophistication can be achieved with Visual Basic for Applications (VBA) macros, though most users don't make use of this capability.

Microsoft – Excel

- As with Word, setting up templates for standard uses is essential (e.g. PC/CD/CO Log, RFI Log, Shop Drawing Log, etc.). The capabilities and options available in creating these logs are considerable with Excel.
- In addition to the straightforward functions such as "AutoSum" often underutilized features include simple built-in functions that are categorized in groups such as "Logical" (If, True, etc.) and "Date & Time". Using these function, formulas can be created which automatically track many data points such as days a review or quotation has been pending.
- With the above, "Conditional Formatting" allow logs to automatically highlight or flag critical data – bringing to our attention things like high/low/mistaken values, critical dates or delinquencies, such as deadlines past due, etc.
- Going further, not only different sheets in a file, but different files can be linked to rely on or aggregate one-another's data.
- Where the built-in functions do not provide the needed capabilities, users can define their own functions.
- Lookup functions can be used to extract specific information from tables for such things as converting day numbers to day names (which Excel's built-in functions cannot do), or automatically filling in mailing addresses once the first piece of information is entered.

Adobe Reader / Adobe Acrobat:

- Adobe Reader is the free program that is used to view a pdf file; Adobe Acrobat is a more robust program that allows manipulation of pdf files. Acrobat is a purchased.
- Adobe Acrobat is an indispensable tool not only for reading and creating PDF files, but also for mark-ups and reviews, whether internal design coordination or shop drawing review for example.
- Documents can be easily combined, and automatically bookmarked.
- One can set up fill-able "stamps" (e.g. shop drawing review stamps) and signature stamps.
- It is also possible to electronically sign documents which some municipalities are requiring.
- It is also possible to forward and track input within PDF's (for example, again, for shop drawings needing multiple consultant input).

Web Browsers:

There are several popular options including Mozilla Firefox, Google Chrome, and Microsoft Internet Explorer

- Often it is the software necessary to access FTP, or other project systems.
- Information on the Web is almost a replacement for our paper libraries, with up to date information accessible from manufacturers' websites. Firefox, by way of an enhanced feature, allows you to synchronize "bookmarks" across multiple computers, helping to bring consistency, structure and some control to an office's virtual library.
- Be aware that while one strength of information sourced on the Web is that it is normally the most up-to-date, it may also be its Achilles' heel. Be sure to download and file any information you have relied on in specifying a product or service. If you need to defend a decision and the information on the Web has been updated, it may no longer contain the statement or information that you relied upon, making it difficult to mount a defense.

With common software, running a project smoothly and keeping good files is simply a matter of implementing standards and protocols as they relate to:

- Communication and distribution (e.g. from contractor to architect to consultants to architect to contractor)

- Clear language and directions
  - Clear naming conventions, e.g. “RFI A 000 – 2014-08-16”
  - E-mail subject lines with clear direction e.g. “2014-00-00 - XYZ, Electrical Review Request”, (note placing the date in YYYY-MM-DD format, at the beginning of a file name ensures accurate and automatic filing by date).
  - Body with clear subject matter – i.e. “Please find attached … for your Review and … by x date …”.
- File Organization, Tracking and Archiving
  - Clear and consistently used file structure
  - Clear titling of files whether e-mail, or documents
  - Logs with sufficient data points to facilitate not only cataloguing and recording of events for posterity, but tracking status and responsibilities (e.g. dates sent, to whom, response required by date, response, related action, etc.)
  - PDF of all final documents
- Collaboration with your team.

In Comparison to specific CCA Software

Whether one chooses the route of special CCA Software or “No CCA-Specific Software”, it is the understanding and ‘buy-in’ of the workflow and processes that are likely to be paramount to the success of the use of software. Even with CCA specific software organization is still required.

Consider what added functionality a software package is offering, the learning curve, additional or savings in time or costs, and how it will be integrated into both your own and your team’s project workflows.

A small practice may not do a lot of CCA and therefore may not realize an adequate time and cost savings benefit from using purpose built CCA software. "No CCA-Specific Software" probably makes sense in this case or if all one does are houses or small design-build projects.

SOFTWARE REVIEWS

Following are brief descriptions of the main software programs identified from the survey and comments from architects who have experience using the programs. Details can be found on the websites of each vendor, but the comments from actual architects who use the software we hope will give a more realistic viewpoint.

The survey identified that architects have at times have been involved with the use of software administered by an owner/developer or a large contractor. These include EdgeBuilder, e-builder, e-Construction and Primavera. These programs tend to be developed more for use by contractors or owners, such as accounting for subcontracts, than for architects doing CCA. There are many other products in the marketplace for construction management and we expect more will be developed tied into use with tablets and mobile devices. Refer to References for links to software vendors and other resources.

Reviews for the following have been included in this article.

- Statslog
- RForm
- NewForma
- Onware

Readers should note that vendors regularly upgrade their products and pricing options – information and costs in this article should be confirmed with the latest information available from vendors.

STATSLOG FIVE

BY TIM GORLEY, PAGE + STEELE / IBI

Statslog is a Canadian product originally released in 1984 as one of the earliest software programs dedicated to the needs of contract administration for architects. It was developed by Michael Copas who had years of experience working for architects as a contract administrator.
The versions were updated on a fairly regular basis as the original developer made it a priority to know his users and their needs and he is still involved in enhancing the product. More staff have been added including specialized user trainers as the software has become more sophisticated and broadly based including communication and distribution tools.

The latest version of Statslog is simply referred to as FIVE. It is designed for an individual computer or server in an office with a network of computers. An option to have the program reside on the vendor's server is available for additional cost.

FIVE simplifies and broadens the previous project controls. It now comes with a 'Dashboard' (doesn't everything?) and tabs assigned for Budgets, Contracts, Requests, Notices, Quotes, Orders, Certificates, Reviews and Correspondence. Submittals, including shop drawing tracking, have also been added. A broader description of the program including videos should be accessed on line where you can download a free trial and navigate the program yourself.

I can say that we have found FIVE easier and quicker to use compared to previous versions with all data columns available from one screen and forms much easier to create and modify.

The software is available as a server or a single computer based version. It is now available to be on the 'cloud' although this is a security issue in our opinion and we prefer to have it installed on our own server network as we have control and provide access to various elements as the situation warrants.

It is used in our office by approximately 10 staff members whose principal occupation is Construction Contract Administration (although fewer actual "hands on" staff) including two dedicated CA assistants.

The following forms and documents are regularly produced.

- Supplemental Instructions
- Contemplated Change Notices
- Change Notices
- Change Directives
- Certificates of Payment

In addition, some staff use the programme for:

- Site Review Reports
- Shop Drawing Reviews

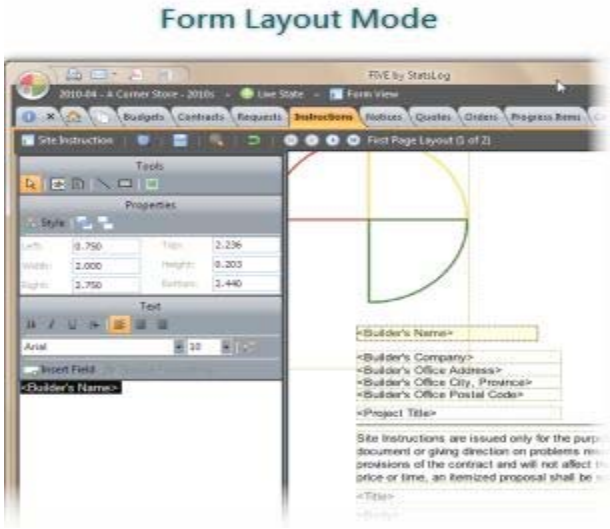
- RFI responses

The creation of forms in Statslog FIVE automatically produces logs listing all of the documents. These logs can easily be created using title, amount, reason, date, or other base line topics as the organizing subject.

Of particular advantage to us has been the convenience of creating custom forms incorporating both our clients' and our own logos, "blurbs" to define the status of each form within the actual Owner/Builder Contract (not just CCDC definitions) and to work with the clients' unique requirements. The creation of forms allows the user to choose from a large selection of fields that are created during administration including dates, dollar amounts, tax rates, holdback rates, writer, contractor, owner, etc. as well as calculating and "filling in" all appropriate figures such as HST, holdback, amount remaining, etc. It has been our experience that the mathematics generated is typically more accurate than that provided on the spreadsheets submitted by the contractor or client.

Support and Customization

The forms are totally customizable to add your company name. logo or special standard language e.g. blurbs for Cos or Sis.
Of almost equal importance to the ease of developing our own requirements, is the very efficient tech support available by phone or web. As well as dealing with our own unique concerns, Statslog has fixed the rare glitch with their software very quickly.



We understand that Statslog sells itself on being able to do a significant number of different processes in addition to those that we use regularly. We have had success in the past by presenting our particular requirement to them and having our special needs developed, so we expect that others could do the same.

Cost

Costs for Statslog FIVE (spring 2015) are based on the number of 'users'; the number or size of projects is unlimited. FIVE comes in two options:

SOLO, designed for a single user only with the software on the architect's server at $500/year. It can be hosted by Statslog server for an additional $250/year.

COLLABORATION is again hosted on the user's server

The cost for this version is also per user ranging from between $750 to $1,000 per year per user. The price decreasing with more users.

Support and Customization

Statslog is designed to enable more customization of forms and tables than other web based software products. YouTube videos for training are readily available.

Summary

Statslog was originally developed for architects with control totally within the architect's office. Though it has expanded into cloud capabilities, the original concept of customizable forms and control of CCA within the architect's office still remains.

As the cost is based on the number of users with no restriction on the number of projects, Statslog FIVE SOLO is cost effective at $500/year for a small office with only one user of the CCA software but with several projects. For the COLLABORATION version of FIVE the cost would be approximately $1,000/year /per user.

Statslog is considered a good product for sole practitioner, small, medium or large architectural practices. It offers more control of the CCA activities within the architect's office than other products.

RFORM

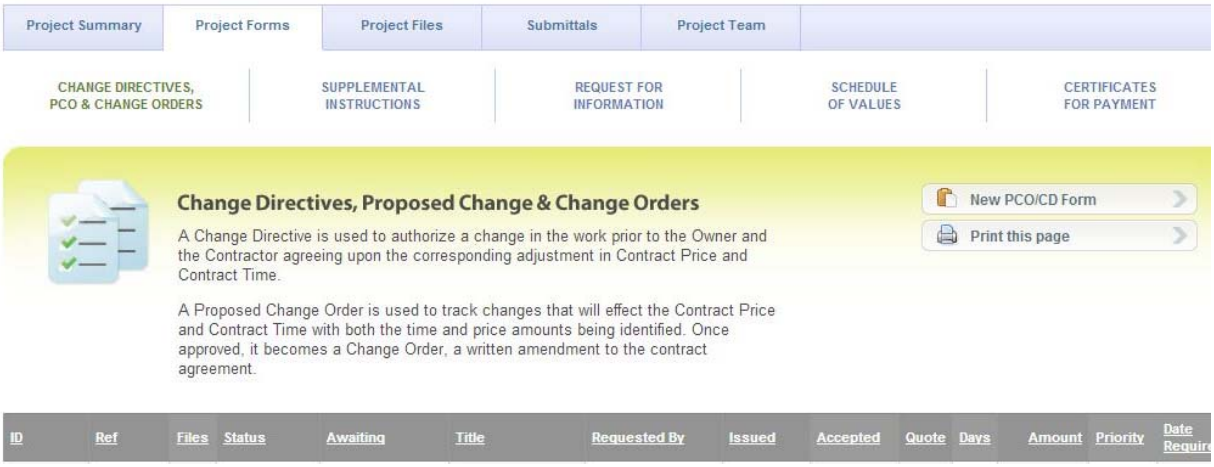
BY CORY STECHYSHYN, i4architecture

rform is a Canadian designed, web based, construction contract administration tool that allows a project team to access the information on any web enabled device. The program is hosted on the vendor's server – in the 'cloud'. Any member of the project team is able to access RForm from their mobile phone or web enabled device on the go, on the job site - enabling them to check the status on RFI's, access shop drawing reviews and previous minutes or reports.

Rform offers the ability to manage the construction contract administration process electronically – facilitating Certificates for Payment, Requests for Information, Shop Drawing Submittals, Supplemental Instruction, Change Orders and the ability to share files electronically with the project team. All activity is logged and tracked and available for the project team to access at any time.

One party, normally the Prime Consultant/ Architect, has "administrative" rights and is in control of the rform project. The Prime Consultant inputs the project team and contact information, inputs the contractor's approved schedule of values and organizes the Project File area for sharing of electronic files. The Prime Consultant manages each project on RForm, inputting who will form part of the Project Team (Prime Consultant, Owner, Consultants, and Contractor) providing them with access to the project through rform on a project by project basis. Rform is setup automatically to control access within each project, depending on which category of user you are setup under (Prime Consultant, Consultant, Owner, Contractor).

This means that "only" a member of the Prime Consultant group can accept a quote for a Proposed Change Order, "only" a member of the Owner group can accept the PCO as a Change Order and "only" the Prime Consultant can create Certificates of Payment, alter the Schedule of Values, accept PCO quotations, finalize shop drawing reviews, issue SI's, CD's and PCO's



rform utilizes email based notification within the rform program to notify selected members of the Project Team when action is to be taken or new files are posted. The email provides a link to the item being referenced, providing team members easy access to the file requiring action / acknowledgement.

Rform provides automated tracking of Supplemental Instructions, Submittals and Requests for Information (RFIs). Shop Drawing Submittals are tracked, noting what is submitted, when it has been sent to Consultants for review, when it is returned and the status of the review. RFI's are logged and tracked, users can add comments and the Contractor is required to "close" the RFI when they are satisfied with the response. Certificates for Payment are approved electronically and PCO's are reviewed by electronic submittal of quotations and backup and then electronically approved as Change Orders.

Any team member can download documents or copies of the supplemental instructions from rform to save electronically or print. An Owner can electronically approve changes and payments or may elect to print Change Orders and Certificates of Payment along with all included backup documents allowing them the ability to obtain a handwritten signature and maintain a copy for their records.

The project can be archived at the end and is saved on the Consultants local hard drive as well as on the rform server. A download of all data can be done at any point in the project.

Support and Customization

At the time of writing rform did not enable users to customize their own forms, therefore, company logos and formatting of the various forms used on the rform site are completed by the rform developers.

rform entertain suggestions for changes or improvements to forms or functionality of their site, however, acceptance of these changes are at the discretion of the developers. Reporting of bugs and fixes are undertaken within a reasonable timeframe. Users say that the site is reliable and site maintenance occurs at different times throughout the year without experiencing any significant access issues

Cost

rform costs (spring 2015) $30/month per project with no limit on the number of users either in your office or by the owner, consultants or contractors. Once a project is closed, you are no longer charged a monthly fee for that project. Three projects on average per year would cost $1,080 / year. When a project is closed the costs for that project end.

Summary

rform appears to have less of a learning curve than other products, which is a great benefit when many other project team members are using the product.

To achieve best results of rform's features, like sign-back approvals from owner, subconsultant or contractors, buy-in by other team members is necessary, although rform can still be used to good advantage by only the architect.

As other cloud based systems, there are concerns about not having all the data on your own system if ever needed such as in a dispute situation, but rform data can be downloaded at any time and when the project is 'archived' or closed.

Although all programs offer free trials of one sort or another, rform can be initially used in full format for $30/month for a single pilot project.

rform is considered a good product for sole practitioner, small and medium sized architectural practices and can be used on very large projects.

NEWFORMA

BY ALLEN HUMPHRIES, HOK

Newforma offers a line of software products that are generally designed to interest large corporate users – project managers, contractors and architects. It requires a dedicated server and the costs reflect use by large companies.

The CCAC Software Survey results indicated Newforma use by 5% of respondents, however it is thought that this reflects multiple users in the same company as opposed to more use by sole practitioners or small practices. This article has not provided detailed information on the Newforma products as the particular use and associated costs require discussion directly with Newforma sales representatives.

Software Products available from Newforma:

- Project Center
- Contract Management
- Building Information Management (BIM)
- Project Cloud
- Mobile Apps

Newforma offers a number of tools to facilitate the sending, tracking and receiving of documents. It generates transmittals and maintains record copies of what was transmitted. Rather than overload email inboxes with large file attachments, the attachments are uploaded to a secure "Info Exchange" server. A transmittal and download instructions are sent by email to all recipients.

If an issue arises on a project, it can be designated as an action item and all related communications and documents, and all routing can be tracked separately.

Newforma integrates with Outlook, creating "items to file" folders for your various projects. A synchronize function then files the emails in a searchable format and deletes them from Outlook.

Newforma has a capable document viewer and mark up tools including the ability to measure documents. The marked up documents can be circulated or the mark up session saved.

Setting up projects in Newforma becomes easier over time as the information in the contact database becomes more extensive. People and companies previously entered in the system become available for adding to the project team for subsequent projects.

Support and Customization

Support is available by phone or over the internet. As Newforma does not generate the typical CA forms, extensive customization is not a feature.

Costs

info not available

Summary

Newforma is suitable primarily for implementation by larger corporate users – project managers, contractors and architects. It requires a dedicated server. It is suitable for use on projects of any size. Rather than being a single package, Newforma offers a number of modules that provide functionality for field management, project management, contract management, and BIM

ONWARE

BY TED DUARTE, DIALOG

Onware is easy to work with, customizable and able to have all project participants included in the documentation process. Below is a screen shot of the eight essential headings the software contains, for control of project documentation. They are:

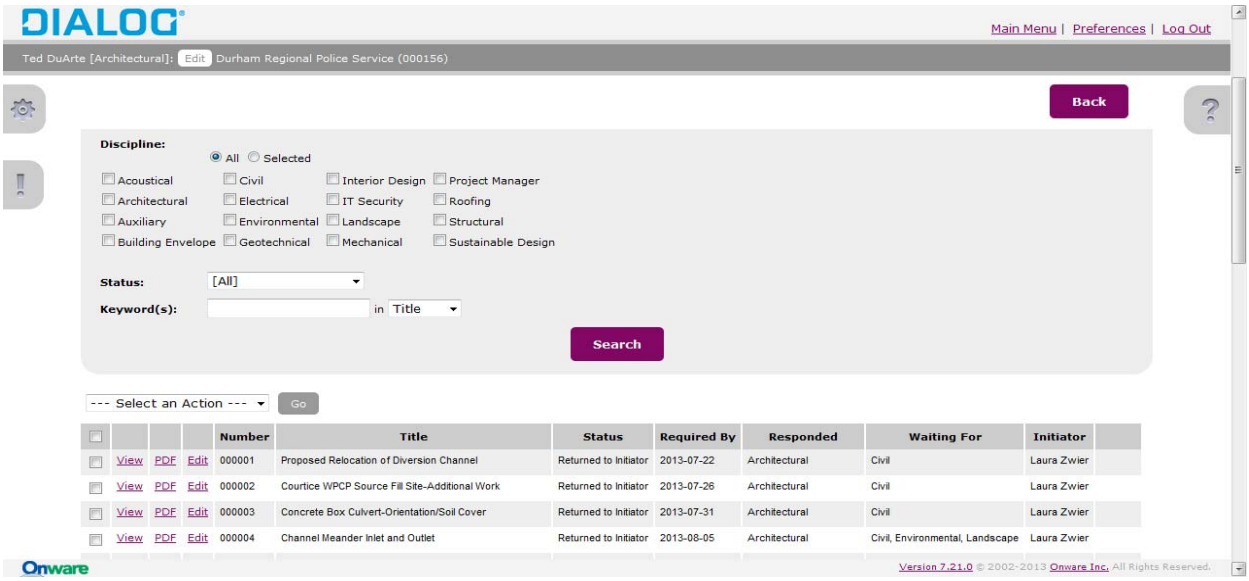
Onware Headings

- Project Reports - Monthly Reports, Project Info, Project Summary and Statistics.
- Project Administration - Active Items, Company Directory, Cover letters, Person Directory, Documentation.
- Timesheets and Expenses
- Site Communications – RFIs (Requests For Information), Supplementary Instructions and transmittals.
- Quality Control – Meetings, Site Visits, Submittals.
- Changes – Consultant Recommendations, Change Requests, Changes, Quotes and Unsolicited Change Requests.
- Payment Process – Progress Claim.
- Onware Tools – Alerts, Audit Log and E-mail.

Requests For Information

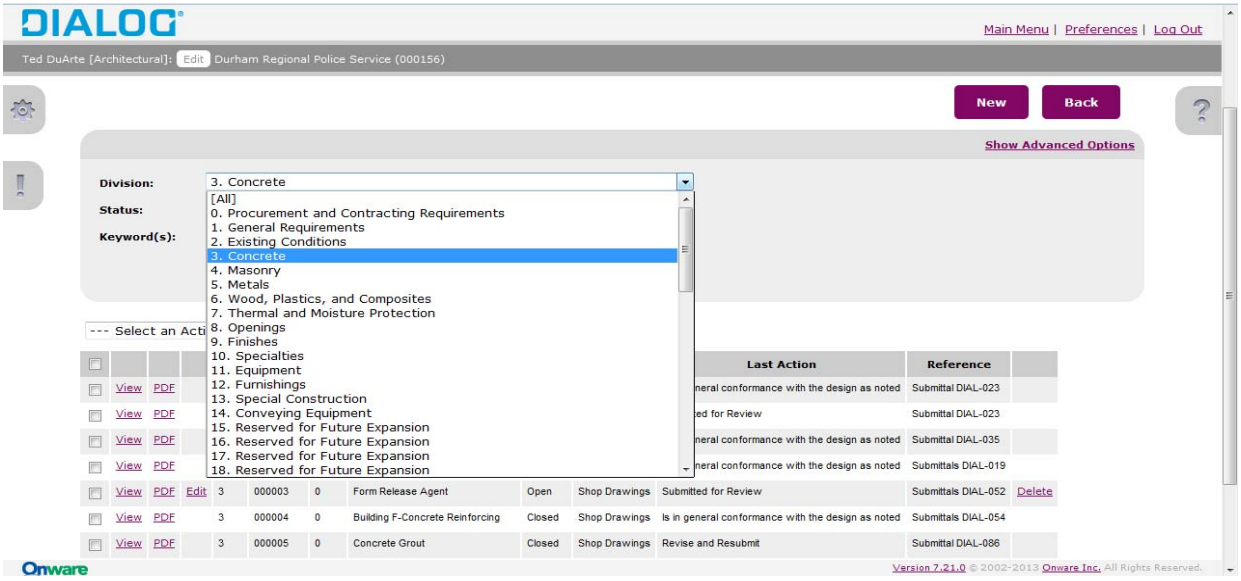
RFIs (along with Submittals) are probably the most used functions in Onware, for any given project. In Onware, RFIs can be sorted by discipline (architectural, electrical, mechanical, etc.), status and title keywords. The contractor, as the initiator, has the option of checking off any disciplines the RFI applies to, making it easier later on to narrow down a search for any particular RFI. If an RFI is deserving of input from several disciplines, the responder should be cautions to provide only a final consolidated answer to the initiator, so that no “temporary” part-answers are shown in the log. One note of particular interest for terminating RFIs: After answering the RFI (sending response to Contractor), the responder must go into the log and “close” the RFI, by selecting the appropriate function under the individual RFI’s “Edit” properties.

Below is a screenshot example of the RFI log.



Submittals

Submittals work in a similar way to RFIs. They can be isolated by discipline and also by Specification Division. The current status is shown, with dates and initiator/responder names identified for the parties involved. Again, once a submittal has been returned to the contractor with consolidated comments, and if no additional info is necessary, it should then be "closed" in the system by selecting the appropriate function under the individual Submittal's "Edit" properties. Below is a screenshot example of the Submittal log, showing Specification Division number, Submittal Number, Submittal Title, Status, Last Action and Reference.



Support and Customization

Support costs as quoted are high if special assistance is required regularly. Training videos are available. As a totally internet based system Onware is not intended to be customized by users. Normal calls for help are dealt with in a reasonable manner and timeframe.

Cost

Onware (spring 2015) comes in two versions:

Cloud – unlimited users - $198/month/per project includes Help

Enterprise Cloud – unlimited users - $508 setup - $7,416 / year billed monthly – option to add Help Desk ($750 to $2,850/month varying with number of users, general cost of support - $150 / hr)

Summary

Onware appears to be suited for medium to large sized architectural practices. There is not a lot of feedback on the product , but the little there is positive.

CONCLUSIONS

- The use of custom CCA software OR development of processes and forms with basic software is advantageous to architects.
- There are pros and cons to different software and to no-specific software.
- The best efficiency appears to be from selecting one method and sticking to it – improving speed as your experience grows - customizing as needed – there is always a learning curve.
- Some architects work quite well with just basic spreadsheets and word processor documents; these too can be continually upgraded
- Software from large contractors to manage parts of CCA is not the same as CCA software for architects and can prove quite problematic for architects forced to use a contractor's system.
- The ongoing cost to use different software must be analyzed as some are based on the number of users (concurrent or otherwise), and others by the number of active projects. This is an important consideration depending on whether you have dedicated CA staff or if everyone is expected to do their own CA paperwork.
- Statslog's Sole product can be used for many projects and would be the most cost effective for a small office with many projects.
- Rform is the least cost to try in actual use for a single project.

REFERENCES

RForm	www.rform.ca
Statslog	www.statslog.com
NewForma	www.newforma.com
Onware	www.onware.com

COST COMPARISON TABLE

The following pricing information, obtained in the spring of 2015, is used for comparison of expected costs depending on the number of users versus the number of projects. To compare select the number of users and the number of projects per user and compare approx. annual cost from each vendor.

Statslog price per user (1)	Approx Annual Cost Statslog (2)	No. of users (3)	No. of Projects per yr avg. (4)	Approx Annual Cost Rform	Approx Annual Cost Onware - "Cloud" (5)	Approx Annual Cost Onware - "Enterprise Cloud" (6)	Approx Annual Cost Newforma (7)
500	$500	1	1	$360	$2,400	$7,400	
500	$500	1	2	$720	$4,800	$7,400	
500	$500	1	3	$1,080	$7,200	$7,400	
500	$500	1	4	$1,440		$7,400	
1,000	$2,000	2	4	$1,440		$7,400	
1,000	$3,000	3	10	$3,600		$11,000	
1,000	$3,000	3	15	$5,400		$14,000	
900	$4,500	5	25	$9,000		$20,000	
850	$8,500	10	50	$18,000		$35,000	
750	$15,000	20	100	$36,000		$65,000	

(1) Costs for Statslog are based on the number of users. There is no limit to the number of projects. Statslog price per user is $500/year for 1 user only with SOLE version. For the COLLABORATION version a progressive cost per user - from $1,000/yr down to $750/yr is used. Information obtained from Statslog – March , 2015.
(2) Statslog annual costs are No. of users x's price per user.
(3) The No. of users is 'actual' for Statslog pricing and 'estimated' related to the others.
(4) The No. of projects is 'estimated' for Statslog and 'actual' for others.
(5) Onware costs for basic Cloud version are $198/ month per project. For 4 or more projects the cost for the Enterprise Cloud version becomes more economical.
(6) $618 per month per project + $50/month additional for each project over 4.
(7) Costs for Newforma – must contact vendor.