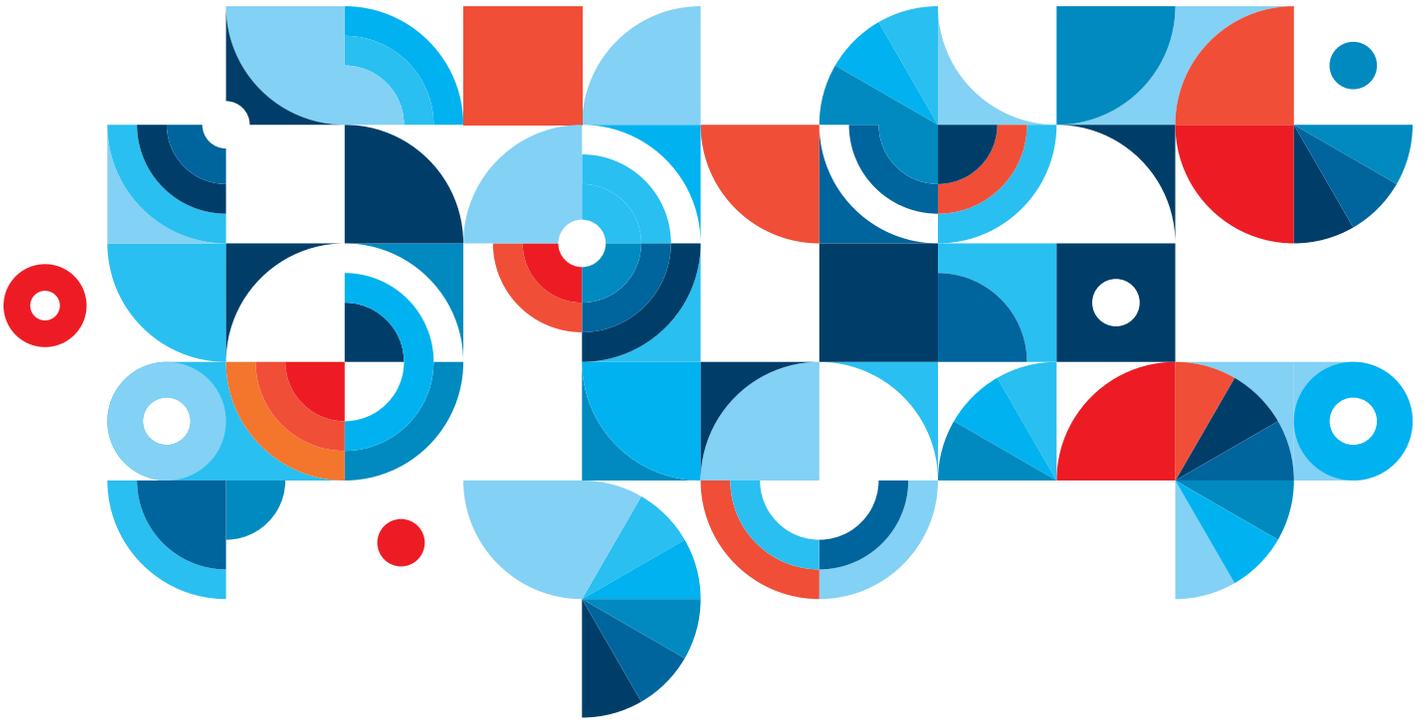


# IBM SmartCloud™ Engage Security



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## Introduction

SmartCloud Engage (<https://www.ibmcloud.com/social>) is an integrated suite of collaboration tools that combine your business social network with web conferencing and collaboration capabilities, like file storing and sharing, instant messaging and activity management. SmartCloud Engage provides essential collaboration services, leveraging IBM's unique position as a world-renowned security leader and trusted partner.

Security is a competitive differentiator for SmartCloud Engage. SmartCloud Engage business-ready security is based on a deep understanding of security and privacy best practices, in both IBM and Lotus. Our security controls provide privacy and controlled authorization to sensitive information while enabling business operations. Engage protects our customers' information through governance, tools, technology, techniques, and personnel, each of which we discuss in more detail below.

The SmartCloud Engage Security approach is based on three pillars:

- A security-rich infrastructure,
- Policy enforcement points providing application security, and
- Human centered security

These three themes structure our direction, as well as the discussion below.

## Security-rich Infrastructure

### Physical Infrastructure

SmartCloud Engage is deployed in a hardened data center, which provides physical protection to systems and data. The data center is located in Virginia, USA. It uses a myriad of security controls to eliminate or prevent physical access to our systems. Biometric controls are utilized on all physical access points to ensure that only authorized persons have access. CCTV monitoring and recording provides additional protection in the event of an issue. Security officers are on premises 24 hours a day. In addition, the data center utilizes



strong fire prevention systems, electrical monitoring systems, earthquake dampers, and solid construction practices to prevent the impact of natural disasters interrupting our services. Power is fed from multiple points in the public power grid and protected with redundant sources.

## Systems Infrastructure

Network security is provided by high performance, state-of-the-art firewalls. All client communications are encrypted with 128 bit algorithms, through SSL on HTTP calls, and through RC2 in our Sametime Instant Messaging protocol. System backups leverage 128-bit AES encryption. Real time Antivirus support services provide on demand scanning capabilities for the SmartCloud for Social Business environment. IBM uses a robust commercial AV product which is deployed not only on the system servers but within the application to provide immediate real time scanning on file storage and sharing.

## People and Processes

IBM Online Collaboration Services has a dedicated security organization that provides clear security management activities surrounding the network, infrastructure, applications, and supporting services. It is responsible for the delivery of security capabilities as well as the specification and design of security architecture and compliance management technologies and processes. It defines the security development and testing activities in the organization, and delivers much of the security functionality in SmartCloud Engage.

All personnel roles across SmartCloud Engage and their access authorizations are recorded in a Separation of Duty matrix. These include system developers, operators, customer support personnel, and other stake holders. SmartCloud Engage is covered by numerous security assurance activities throughout its entire lifecycle. IBM performs quarterly security configuration reviews of all systems and infrastructure. Periodic vulnerability scanning is performed on the network and servers, and there are regular independent application and infrastructure reviews. Rational AppScan testing checks for common web exposures such as cross site scripting, cross site request forgery, and SQL injection. Manual ethical hacking supplements the expertise in the AppScan tool set and targets the unique application and infrastructure configuration in SmartCloud Engage. IBM compliance programs are deployed throughout the delivery environment. IBM's approach to compliance is multi-layered, with periodic compliance programs that address all elements of the service environment. The system development lifecycle includes code reviews, code control, and accountability. Programs have been established to enable application and infrastructure reviews at the corporate level. Business process based reviews are conducted through the project cycles. IBM compliance programs mandate periodic self assessments and production scanning and reporting of compliance posture. Privacy reviews help to ensure customer data protection. IBM's comprehensive policies on privacy and client data protection can be found at <http://www.ibm.com/privacy/us/en/>. IBM ensures that the data center and operational processes are consistent with SAS70 Type II controls testing. IBM enforces that all third party services providers are SAS70 Type II certified. IBM is planning SAS70 Type II certification of the service delivery environment.

## Policy Enforcement Points Provide Application Security

Policy enforcement points in the application, middleware, and infrastructure allow the business customer to better secure their collaboration within and across their organizational boundaries. SmartCloud Engage authentication policy is provided by the widely utilized IBM Tivoli Access Manager software, which provides single sign-on for registered users to all SmartCloud Engage components and authenticates those users to each other. Unregistered (and unauthenticated) users may join meetings. Application level policies are built on the notion of the business organization as an information boundary. Different controls and policies apply within and across organizational boundaries. A directory of subscribers

The screenshot shows a web interface titled "Edit User". Below the title is a sub-header "Make any desired changes below". There are four input fields: "Full Name" with the value "Frank Adams", "Email" with the value "frankadams@renovations.com", "Role" with a dropdown menu showing "User", and "Visibility" with a dropdown menu showing "Don't show on company page". At the bottom of the form are two buttons: "Save changes" and "Cancel".

Figure 1: Administrative protection of user externally facing information

within a specific SmartCloud Engage registered organization is available to all the members of that organization (but only to them). This allows every member of the organization to see the names, SmartCloud Engage roles, job titles, photos, and email address of every other member of their organization. Controls are available to both the individual and the organization's administrator to provide security and privacy for identity and personal information of employees in a business social networking context. Individuals or their administrator can opt-out of their information being show to users outside of the organization, through the company's externally facing company page, or through the SmartCloud Engage search feature.

**Search Profiles** **My Profile** Search My Network

Fullname: Dan Misawa  
 Title: Sales Manager  
 Company: Renovations  
 Email: frankadams@renovations.com

Change | Remove

Actions: Save Changes | Cancel

**LotusLive Public Directory**

The LotusLive public directory is a list of users who want their name, job title, picture and company name to be searchable from the LotusLive Web site. The benefit to being listed is that any visitor to LotusLive can find you, even if they aren't signed in.

Do you want to be listed in the LotusLive public directory?

Yes, I want to publish my name, job title, picture and company name in the LotusLive public directory.  
 No thanks. Do not publish my name, job title, picture and company name in the LotusLive public directory.

**Recent FAQs**

**What is my profile, and who can see it?**  
 Your profile is your identity on the site, such as your name, About Me information, and photograph. Anyone can search and find your profile, unless you have elected not to be listed in the public directory. Go to your profile to find out more.

**How can I find other profiles?**  
 Click My Network > Profiles to access the profiles search. You can type a full or partial name to find someone's profile.

**What's the difference between Contacts and Profiles?**  
 Contacts works like an address book where you create, edit, and own contact records. Profiles contains information that registered users create about themselves. Only you can change your profile, and you cannot change others.

Figure 2: User opts out of personal externally facing information.

The figure below shows an example of an externally facing company page, and how the users who are included in the company page are represented. Only the user's name, picture, and title are shown in the company page if they are included there.

**Profiles** **My Profile** Search My Profile

**M&L** Misawa and Ling Law Associates

**View**  
Overview

**Tags**  
[ ]

View as cloud | list | All

**About Us**

**Misawa & Ling Law Associates**

Dan Misawa and Ling Shin have over 20 years of experience in environmental law practice. They offer a full range of services including contract negotiations, legal reviews, corporate counsel, and private business/government cooperation. Misawa & Ling specialize in the complex needs of small business manufacturers who need to navigate the many rules and regulations of the local, state, and federal policies.

**Address:** 225 Montgomery Street San Francisco CA 10011  
**Tel:** 415-555-1001  
**Email:** [info@misawaling.com](mailto:info@misawaling.com)  
**Website:** <http://misawaling.com>

**People**

viewing 1 - 1 of 1 people

**Dan Misawa** [Add to My Contacts](#)  
[Get Connected](#)

Figure 3: Company page with externally facing user information

Email names are treated with particular sensitivity by all SmartCloud Engage components, because of their use in contacting and identifying users, and their attractiveness to attackers such as spammers and phishers. A user's email name is only shown to others in the organization through the organization's directory, and to external others only after the user explicitly agrees to "connect" with them. A registered user's email address is their confirmed and verified personal identifier. To complete their SmartCloud Engage registration, users prove they control their registered email address by

following a URL with a randomly generated nonce sent to that address. Application level access controls are available on the collaboration data in every SmartCloud Engage component. These controls provide the organization as a fundamental unit of sharing, while also allowing users to share at the individual, group, and/or public level. Public access is restricted to SmartCloud Engage registered users, each of which has proven they control access to their registered email address. In the figure below, an additional author is being added to the shared file.

**Share files**

**File(s) :** GettingStarted.pdf

**Share with:**

- People/Groups** (give specific file permissions to others)
- My Company** (visible to everyone in my company)
- Public** (visible to anyone)

**Permissions:** Type in the name of a person or group to give them permissions.

**Readers**

**Authors**

**Message: (optional)**

Frank - please verify that slide 12 is valid - thanks

**Share** **Cancel**

Figure 4: Adding a user who can update a shared file.

## Human Centered Security

The third pillar of the SmartCloud Engage security strategy recognizes that end users make the day to day decisions on what to share and what to protect, based on their best understanding of their responsibilities to their company. Security that is confusing or not understandable by the average user offers little benefit. Security that places unrealistic requirements on user actions will not offer appropriate protection. Engage provides useful and usable security within the context of business collaboration with colleagues, partners, and customers. For example, there is a single view of a file that provides all sharing and upload information, giving the user full information on the security of that file in the context of file use. It shows who a file has been shared with, who has downloaded which version, and what comments have been made on a file. The view also allows actions on the file including changing the sharing and control state, and changing the file itself.

Transparent feedback and safe defaults within SmartCloud Engage ensure user security awareness without intrusiveness. For example, a newly uploaded file is private by default, reducing the potential for mistakenly sharing work in its early stages. In the figure below, the radio button “No One” is always the default during a new file upload. The user sees this default when creating new content, and may change it at any time. In the figure below, the user is choosing to share the newly uploaded file with their organization instead of keeping it private.

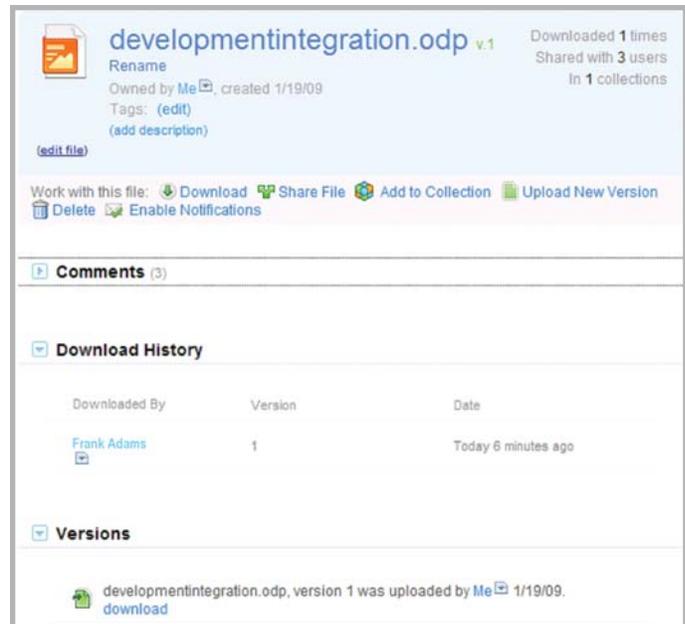


Figure 5: Security, sharing, and history context of a file

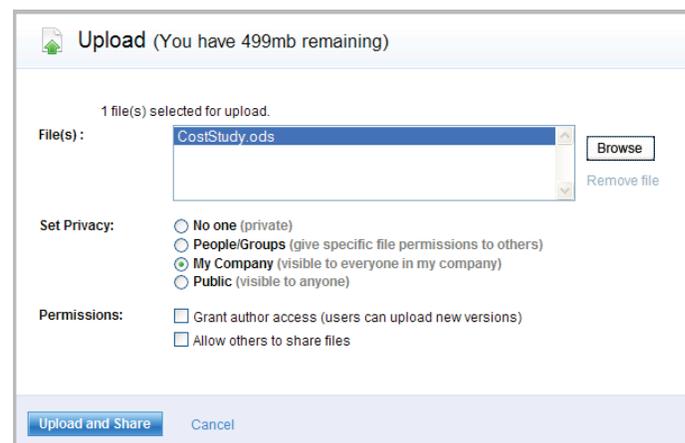


Figure 6: Sharing a file with your company

## Future Considerations

A number of security related features are under active consideration for near term updates to SmartCloud Engage. Some organizations may wish to directly authenticate their members to SmartCloud Engage, controlling all aspects of the authentication credentials of their users. Tivoli Federated Identity Manager (TFIM) provides support for service providers such as SmartCloud Engage to accept identity assertions from such organizations, using standards based protocols such as SAML and OpenID. Identity integration with partners will also require similar identity synchronization features. Partner integration will also require authorization controls to enable specific applications access to user data at the organizational granularity. OAuth may provide those controls. Extended compliance and oversight features are also a topic for future considerations. Support for customer-controlled encryption of files and other content is a topic of discussion with the SmartCloud Engage partner ecosystem. Ex-tended reporting features may include dashboard views that show the flow of information across organizational boundaries, and integration of the extensive compliance reporting facilities available from Tivoli Compliance InSight Manager (TCIM).

The information on new features or any forward-looking statements in this document is intended to outline our general product direction and should not be relied on in making a purchasing decision. The information on new features to this service is for informational purposes only and may not be incorporated into any contract. The information is also not a commitment, promise, or legal obligation to deliver any material, code or functionality. The development, release, and timing of any features or functionality described for our products remains at our sole discretion.

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## Conclusion

SmartCloud Engage allows users to exchange information and meet online to collaborate without security concerns. Its security approach is based on a security-rich infrastructure, policy enforcement points providing application security, and human centered security. SmartCloud Engage draws on security competency centers across IBM, including Software Group, Services, and Research. Our innovation and leadership on cloud collaboration security will continue as we expand on and improve our services.



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