Document Centralization ClouDoc

Best choice for document management and document security!
Background of document centralization

- Leakage of cutting edge technology by industrial spy
- Loss of documents by ransomware
- Leakage of customer personal information frequently occurred
- Temporary / Monetary loss by document retrieval
## Existing countermeasures method

<table>
<thead>
<tr>
<th>Management subject</th>
<th>Management plan</th>
<th>Countermeasure solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>General business documents (MS Office, Hangul, …)</td>
<td>Media Control</td>
<td>DLP solutions</td>
</tr>
<tr>
<td>Customer personal information (Text, image, video)</td>
<td>Document encryption</td>
<td>DRM solutions</td>
</tr>
<tr>
<td>Core design CAD drawings</td>
<td>Personal information protection</td>
<td>Personal information scanning solutions</td>
</tr>
<tr>
<td></td>
<td>Document management</td>
<td>EDMS solutions</td>
</tr>
</tbody>
</table>

### Fragmented management of each part
Problems of existing countermeasures method

- **Difficulty of management**: Too many management points because the main information of company is distributed in many PCs.
- **Limited document security**: DRM solutions have limited types of protectable documents.
- **Possibility of leakage**: Possibility of leakage due to disc replacement of unencrypted documents, disposal of PC, etc.
- **PC performance reduction**: Serious PC performance degradation is due to the use of personal information scanning solutions.
- **Lost password**: If there is no password management system, work gap due to loss of password in personal information file.
Document centralization countermeasure method

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<tr>
<th>Management subject</th>
<th>Management plan</th>
<th>Countermeasure solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal information (text, image, video)</td>
<td>Windows Explorer drive document management</td>
<td>At once with ClouDoc document centralization!</td>
</tr>
<tr>
<td>Core design CAD drawings</td>
<td>PC storage prohibition</td>
<td></td>
</tr>
<tr>
<td>Product design graphic data</td>
<td>Media control Including USB</td>
<td></td>
</tr>
<tr>
<td>Production/manufacturing management</td>
<td>Clipboard copy control</td>
<td></td>
</tr>
<tr>
<td>Manufacturing-related Patent technical data</td>
<td>Block screen capture, Print control</td>
<td></td>
</tr>
</tbody>
</table>
Features of document centralization method

**Intensive document management**
- Document management points concentrated on one central server

**Information leakage blocking**
- No possibility of information leakage due to replacement or disposal of PC equipment

**Continuity of work**
- Work flow does not break because documents always exist in the central server

**Smooth takeover**
- Takeover is smooth despite department transfer, retirement, etc.

**One Agent integrated environment**
- One stop service, simplification of low cost operation troubleshooting expected

**Ransomware blocking**
- Ransomware blocking and post countermeasure function provided
## ClouDoc Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic module</strong> <em>(required)</em></td>
<td>Provides basic document management functions and additional functions such as SW installation file management and community functions. (Provides Windows Explorer / Mobile / Web / Java Explorer)</td>
</tr>
<tr>
<td>Mobile</td>
<td>Uses central drive on iOS and Android–based smart phones and tablet devices, and provides notifications such as announcements or export approval.</td>
</tr>
<tr>
<td>Search engine</td>
<td>Provides 'Search Contents' and Meta Search directly in Windows Explorer for files in various formats including MS Office and PDF.</td>
</tr>
<tr>
<td>Project version Management</td>
<td>Provides version control for a variety of documents including 3D CAD. Provides operational methods such as scheduled backup, incremental backup, and recovery in case it is needed.</td>
</tr>
<tr>
<td>Push Service</td>
<td>Supports push services such as announcements, document export, link approval, etc. from mobile devices such as iOS and Android which can be used by any business solution.</td>
</tr>
<tr>
<td>PC Backup</td>
<td>Provides functions such as instant / scheduled backup, incremental backup, file integrity check, restore, etc.</td>
</tr>
<tr>
<td>DiskLock <em>(required for security purposes)</em></td>
<td>Provides an environment for storing documents created on a Windows PC on a central server and preventing storage on a local disk or medium.</td>
</tr>
<tr>
<td>DiskLock Plus</td>
<td>Provides functions such as clipboard copy prevention, screen capture prevention, printing (log) prevention, print watermark, etc.</td>
</tr>
<tr>
<td>Network Lock</td>
<td>Blocks the Internet while the user is using the intranet and blocks the intranet while the Internet is in use to prevent information leakage from malicious code.</td>
</tr>
<tr>
<td>External document Exchange service</td>
<td>Provides the function to send documents via link to partner companies through DMZ's Document Exchange Server, and to receive documents from partner companies.</td>
</tr>
<tr>
<td>PC Log</td>
<td>Stores the file input/output related logs generated in PC local and provides search function.</td>
</tr>
<tr>
<td>External DRM</td>
<td>A function to forward encrypted files to partners for document security. The files and folders can be sent as well as attachments and links. Documents sent are protected by functions such as passwords, OTP, real-time blocking, and blocking by number of views.</td>
</tr>
<tr>
<td>Security Viewer</td>
<td>Converts Office documents to provide view-only functions without downloading documents from OS such as Mobile / Macintosh / Windows.</td>
</tr>
<tr>
<td>Personal Information Security</td>
<td>Provides personal information detection and action functions by personal document box and departmental document box for centralized documents.</td>
</tr>
<tr>
<td>Backup Appliance</td>
<td>Provides Hardware integral type backup solution. Full backup only once, keeps and last n days of data in the folder with incremental backup forever.</td>
</tr>
</tbody>
</table>

**Other modules except the basic module are selected and applied as needed.**
ClouDoc Functions – Basic Functions

- Windows Explorer drive UI Support
- Heterogeneous web browser UI support
- Supports Java Explorer UI for Linux and Macintosh
- Automatically lock files while in use (auto check in/out)
- Version management of MS Office documents
- Collaborate among employees with folder sharing and document link functions
- Collaborate with other departments and partner companies with guest ID functions
- Authority and capacity management by folder administrator
- Web page–based community functions
- SW installation file request system
ClouDoc Functions – Mobile Support

- Provides iOS, Android, smart phone, and tablet UI
- Provides security functions such as device registration, location tracking, and remote deletion
- Viewing personal/team/Shared documents
- Camera and album linking functions
- Internal access through external proxy server
ClouDoc Functions – Search Engine

- Provides content search directly from Windows Explorer
- Provides content search for various file formats
- Provides search functions for document meta information
- Easy to use search result UI
- Indexing and searching contents of scanned documents
- Conversion of scanned documents into text documents (individually provided)
ClouDoc Functions – Project Version Management

- Version management regardless of document type
- Useful for 3D CAD drawing version management
- Scheduled backup, incremental backup, restore in case the need arises
ClouDoc Functions – Push Service

- Push service such as announcements, document export, link mail, approval
- Supports for mobile devices such as iOS and Android
- Enterprise solution architecture that anyone can use
ClouDoc Functions – PC Backup

- Instant / scheduled backup
- Incremental backup
- File integrity check
- Provides restoration functions
ClouDoc Functions – DiskLock

- Collecting and protecting work files scattered on existing PCs
- Windows PC application category management
- PC storage prevention policy by application category
- Export procedure by exporting purpose
- Ransomware blocking functions
- Direct device control
ClouDoc Functions – DiskLock Plus

- Screen capture prevention
- Clipboard copy prevention
- Print prevention
- Print watermark
- Print log
ClouDoc Functions – NetworkLock

- Internal network mode, external network mode
- External network blocking in internal network mode
- Internal network blocking in external network mode
- Document exchange between networks
ClouDoc Functions – External Document Exchange Service

- External document exchange server in DMZ zone
- Internal employee sends document link to partner company
- Receive documents from partner companies
- Non-repudiation of document downloads by partner company employees
ClouDoc Functions – PC Log

- Records various disk’s input/output
- Restricts log acquisition subjects such as application, extension, path, and etc.
- Specifies works for log
- Creates multiple policies and specifies policies to apply to individuals and departments
- Saved log provides administrator search function
- Provides statistical charts related to various logs
ClouDoc Functions – External DRM

- Send encrypted files to partner companies
- Send file as attachment and link
- Send encrypted files and folder
- Offline recipients are protected by entering a password
- Online recipients are protected by OTP, real-time blocking, browser number limits, time limits
ClouDoc Functions – Secure Viewer

- Functions to convert Office documents
- View the document in mobile device without downloading ClouDoc-only App
- View the document in Web Explorer for Macintosh without downloading
- View the document in groupware without downloading document link
ClouDoc Functions – Personal Information Security

- Manages various detection patterns
- Provides statistical information along with functions to check the detection by document drives
- Provides user management functions
- Provides administrator management functions
- Provides personal information detection guidance e-mail for individuals, team leaders, and service managers etc.
ClouDoc Functions – Backup Appliance

- Hardware integrated backup solution
- File backup – Keep n snapshots!
- Support various backup schedules – Hourly/daily/weekly/monthly
- Performance monitoring – Alert notification, performance status, backup status
- Equipment safety – SW firewall, performance status tool, self-central control
ClouDoc Features

**Compatibility**
- Exclusive Windows Explorer drive technology-based compatibility for performance, stability, network, security, etc.

**Security**
- Hash value based security architecture, not program name

**Extendibility**
- Provide essential additional features by industry based on document centralization
Fujitsu server–integrated ClouDoc – Configuration diagram

* This proposal applies to customers who purchase Fujitsu server–integrated ClouDoc.

Server configuration plan by number of users

- **30, 50 Users**
  - Version management backup

- **100 Users**
  - Version management backup

- **150, 200 Users**
  - Version management backup

- **250, 300 Users**
  - Version management backup

Provided function

- **Recent 7–day data to incremental backup (Deal with ransomware)**
- **SW Firewall**
- **Performance Monitoring**
- **Self–control**
Fujitsu server-integrated ClouDoc – Features

* This proposal applies to customers who purchase Fujitsu server-integrated ClouDoc.

**Version Management**
Manage recent 7-day data to incremental backup in preparation for ransomware.

**Firewalls**
Countermeasures against external intrusion by blocking network ports other than necessary protocols.

**Performance Status**
Install and manage tools that can identify post causes by monitoring and recording the system’s CPU, RAM, disk, and other items.

**Self-control**
Provide e-mail notification function for net ID, customer’s contact person in case of emergency through self-control over CPU, RAM, disk, services, etc.
4 years in a row, more than 50 new customers
Document Centralization Youtube Channel

- Systematic document centralization description
- Realistic product demonstration
- Big Tip for use of document centralization!
- Subtitles for English/ Japanese / Chinese
- Place for communication using comments

Search mcloudoc on Youtube!
mcloudoc Homepage Guide

• OK even for small businesses, only 5 employees or more!
• Affordable fee to pay for usage amount per month!
• OK even without an in-house computer room, server, management staff, or technical support!
• Base of the document centralization solution recognized by over 300 companies and over 53,000 customers!

① Security and document management function of mcloudoc all at once!
② Product inquiry corner for immediate reply
③ Provide remote support tool
④ Download product data
⑤ Check mcloudoc's news in real time!
⑥ Foreign language version website for global customers
Appendix. Use Cases – CAD drawing security

Support various CAD programs without separate development

- AUTO CAD
- SOLID EDGE
- CATIA
- PRO ENFINEER
- SOLID WORKS
- ... 

Offering plan

- Prevention of leakage of various types of CAD drawings used by companies
- Company property of CAD drawing
- Countermeasure for certification of ISO27001, ISMS etc.

Features

- The only product that blocks the possibility of leakage by directly loading it into memory without copying the drawing to PC
- The only product that stores drawings directly to the server instead of PC with the highest performance
Appendix. Use Cases – Countermeasure for ransomware

Central documents stored work documents, PC security disk etc., block access to unknown programs (e.g., Ransomware)

Document in central document box is restored with 365-day incremental backup in an emergency
## Appendix. Use Cases – Prevent leakage of customer personal information

<table>
<thead>
<tr>
<th>Application case</th>
<th>Applied to Samsung Card, NICE Evaluation Information, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application subject</td>
<td>Apply to places with a lot of personal information such as Portal, Communication, Hospital, Finance ...</td>
</tr>
</tbody>
</table>

### Application plan and introduction effect

- Provide personal information management function stored in center
- Easy to manage personal information management point by limiting the number of PCs to document centralization server
### Appendix. Use Cases – Source code leakage prevention

<table>
<thead>
<tr>
<th>Application case</th>
<th>Applied to Hydako, Kwang Ju Bank, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application subject</td>
<td>Promising to apply to SW such as banking, electronic wallet, etc. where source code security is important other than game companies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application plan and introduction effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Centralize and protect all outputs such as design documents and source code through document centralization</td>
</tr>
<tr>
<td>• Useful as providing source code security features that cannot be protected by existing DRM solution</td>
</tr>
</tbody>
</table>
## Application case

<table>
<thead>
<tr>
<th>Application case</th>
<th>Applied to Korean Re paperless work environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application subject</td>
<td>Companies that need to reduce operating expenses and storage / destruction due to paper document management</td>
</tr>
</tbody>
</table>

### Application plan and introduction effect

- Reduce use of paper for printing by more than 80%
- Use mobile terminals during conference hours
- Implement Any Time, Any Where, Any Device
### Use Cases – Compliance countermeasure including ISMS

<table>
<thead>
<tr>
<th>Application case</th>
<th>Tokyo Electron Korea International ISO 27001 certification countermeasure</th>
</tr>
</thead>
</table>
| Application subject | • International Certification ISO27001 Certified  
• Korean Government Promotion Certification: ISMS, PIMS  
• Hyundai Motor Private Certification: HISMS  
• Applied Materials, US semiconductor equipment company, Private Certification: High IP |
Appendix. **Use Cases – VDI interlocking**

<table>
<thead>
<tr>
<th>Application case</th>
<th>Applied to <strong>Sungjoo Group, SK Telecom</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application subject</td>
<td><strong>Companies that introduced VDI but need more useful document management than NAS</strong></td>
</tr>
</tbody>
</table>

**Application plan and introduction effect**

- Document centralization has strong document management function compared to NAS used by VDI
- Provide collaborative environment for partners
- Security enhance, mobile support, document sharing, collaborative space, permission setting, content search, partner collaboration, adapting to client environment
Appendix. Use Cases – Applied to network separation environment

<table>
<thead>
<tr>
<th>Application case</th>
<th>SK telink introduces document centralization in existing network separation environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application subject</td>
<td>Companies that need efficient management of internal network documents and secure data sharing between network</td>
</tr>
</tbody>
</table>

**Application plan and introduction effect**

- Internal network by document centralization
- External network by outside Document Exchange Server
- Possible to exchange data between internal network and external network through outside document exchange server
Appendix. Use Cases – Collaboration with partners

<table>
<thead>
<tr>
<th>Application case</th>
<th>KOPEC (Korea Power Engineering Company, Inc.) technology provides security environment to partner companies to prevent hacking of hostile countries.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application subject</td>
<td>Companies with a lot of project work between inside and outside staff such as office, CAD, source code development tool</td>
</tr>
</tbody>
</table>

Application plan and introduction effect

- Employees of partner companies perform major tasks by remotely accessing customer’s servers from their offices (via VPN, proxy, data exchange between networks etc.)