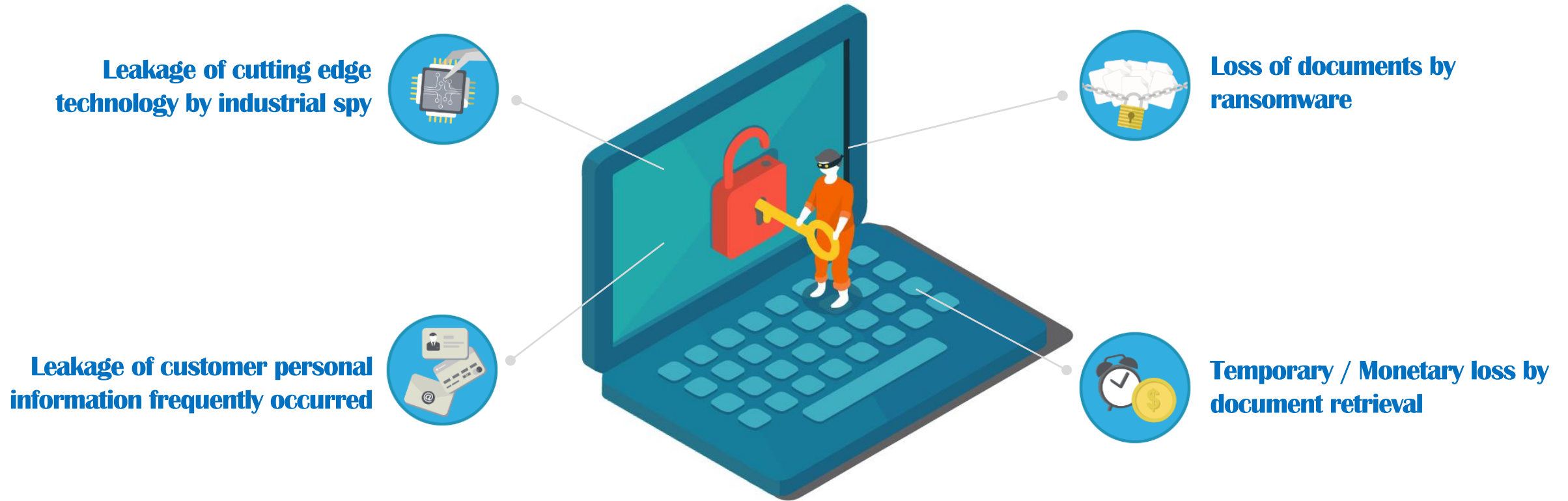




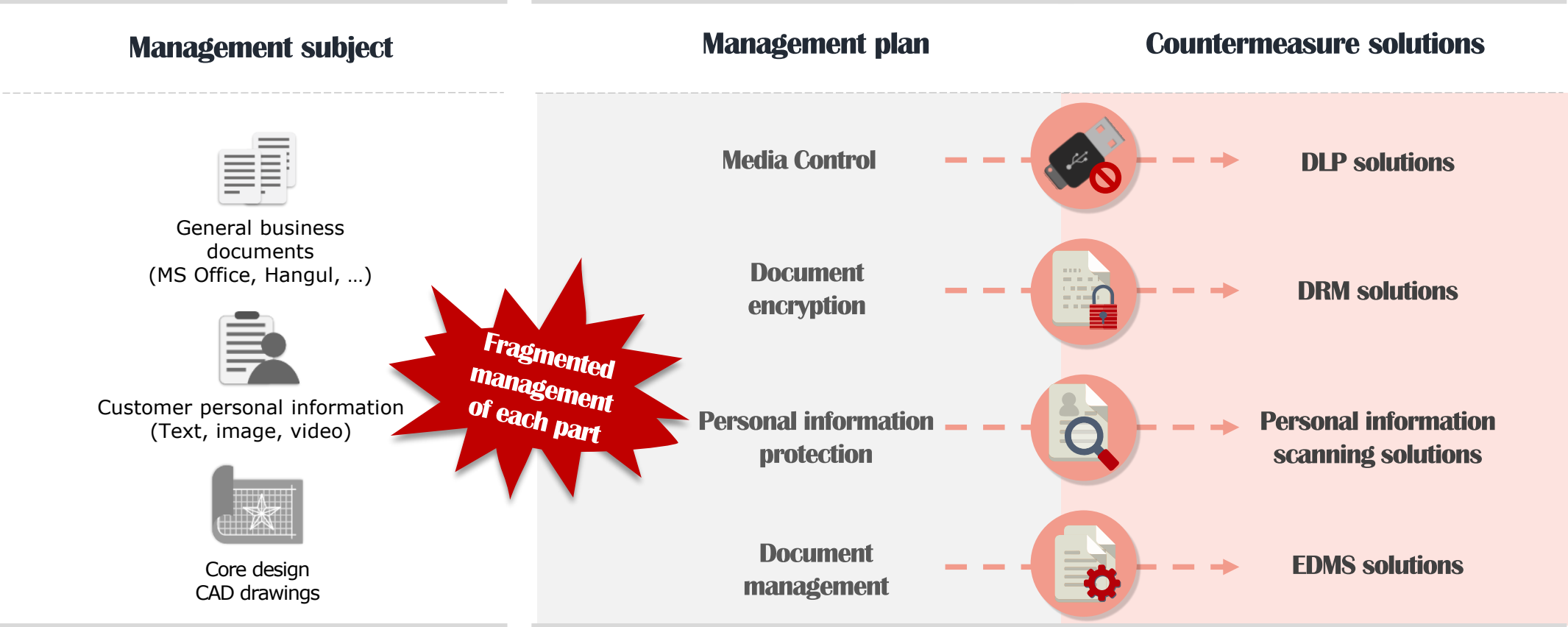
Document Centralization ClouDoc

Is it the best choice for document management and document security?

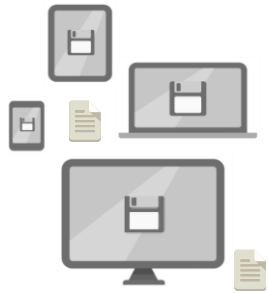
Background of document centralization



Existing countermeasures method



Problems of existing countermeasures method



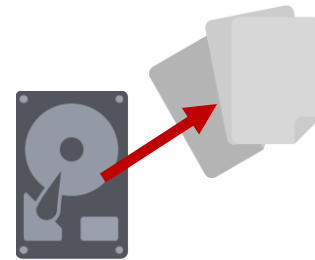
Difficulty of management

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

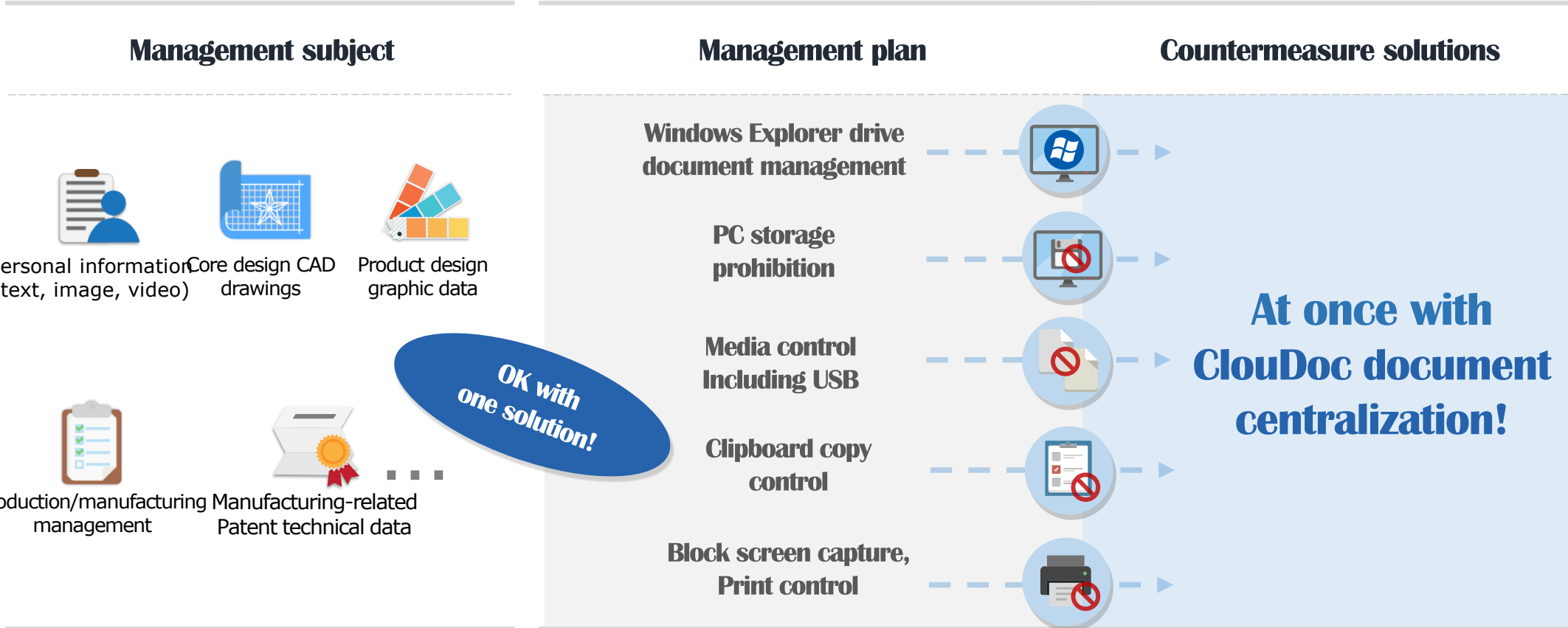
Serious PC performance
degradation is due to the use of
personal information scanning
solutions



Lost password

If there is no password
management system, work gap
due to loss of password in
personal information file

Document centralization countermeasure method



Features of document centralization method



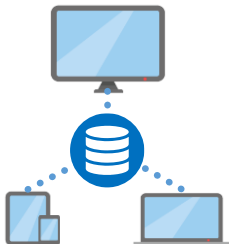
Intensive document management

Document management points concentrated on one central server



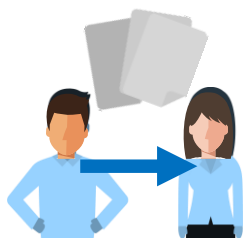
Information leakage blocking

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



**** Other modules except the basic module are selected and applied as needed.**

	Basic module (required)	Provides basic document management functions and additional functions such as SW installation file management and community functions. (Provides Windows Explorer / Mobile / Web / Java Explorer)
	Mobile	Uses central drive on iOS and Android-based smart phones and tablet devices, and provides notifications such as announcements or export approval.
	Search engine	Provides 'Search Contents' and 'Meta Search' directly in Windows Explorer for files in various formats including MS Office and PDF.
	Project version Management	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.
	Push Service	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.
	PC Backup	Provides functions such as instant / scheduled backup, incremental backup, file integrity check, restore, etc.
	DiskLock (required for security purposes)	Provides an environment for storing documents created on a Windows PC on a central server and preventing storage on a local disk or medium.
	DiskLock Plus	Provides functions such as clipboard copy prevention, screen capture prevention, printing (log) prevention, print watermark, etc.
	NetworkLock	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.
	External document exchange service	Provides the function to send documents via link to partner companies through DMZ's Document Exchange Server, and to receive documents from partner companies.
	PC Log	Stores the file input/output related logs generated in PC local and provides search function.
	External DRM	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.
	Security Viewer	Converts Office documents to provide view-only functions without downloading documents from OS such as Mobile / Macintosh / Windows.
	Personal Information Security	Provides personal information detection and action functions by personal document box and departmental document box for centralized documents.
	Backup Appliance	Provides Hardware integral type backup solution. Full backup only once, keeps and last n days of data in the folder with incremental backup forever

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/public 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(Individual 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**



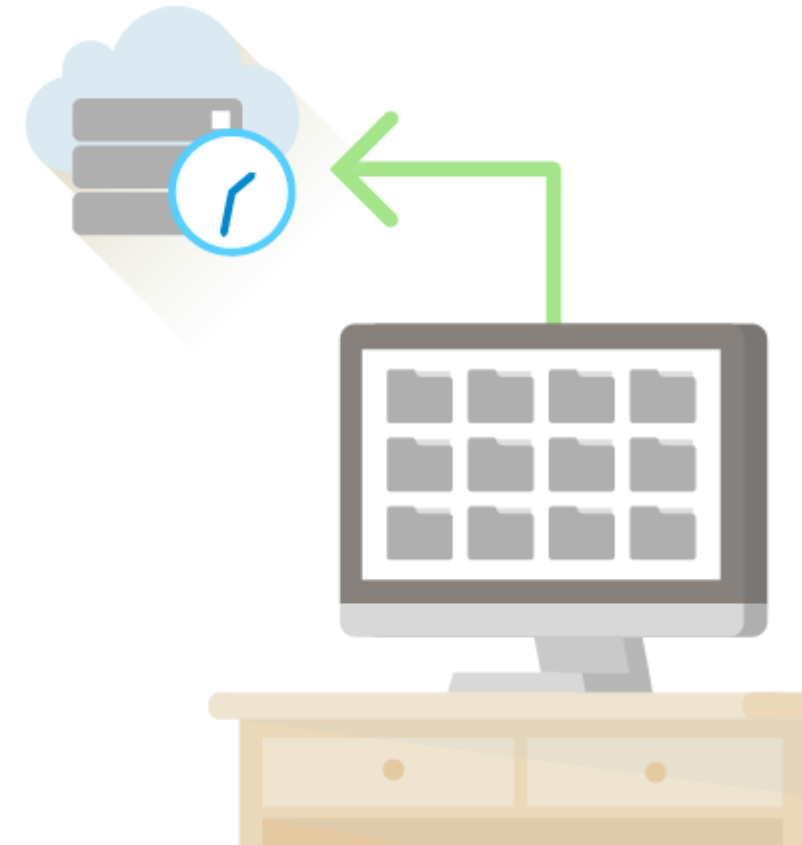
ClouDoc Functions – Push Service

- **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**



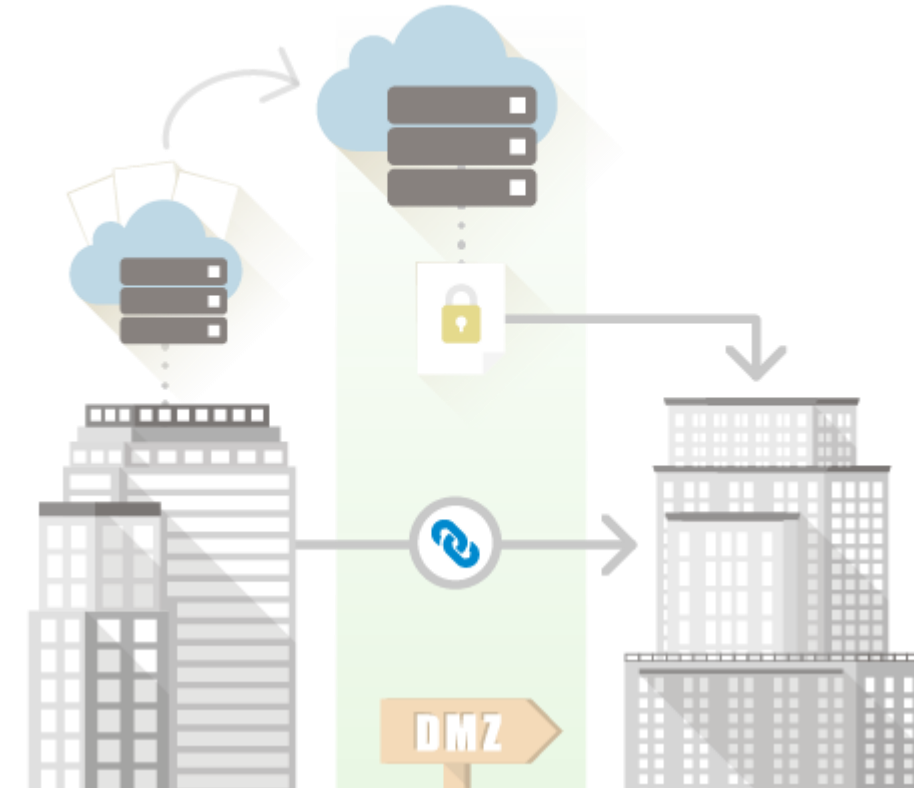
ClouDoc Functions – NetworkLock

- **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**



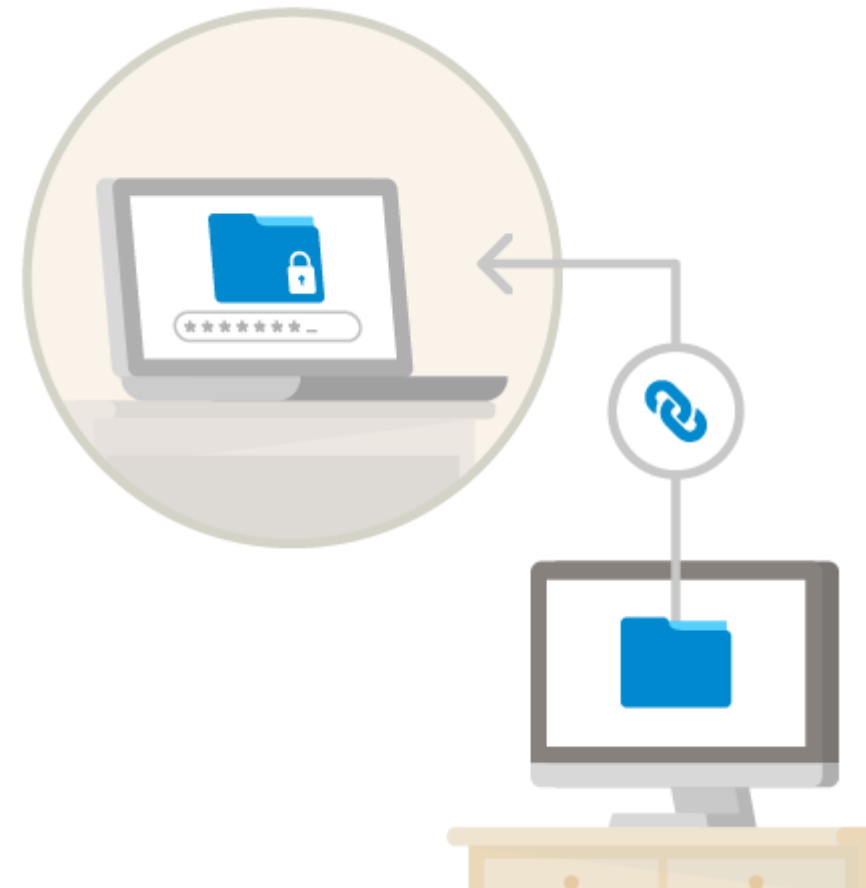
ClouDoc Functions – PC Log

- **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

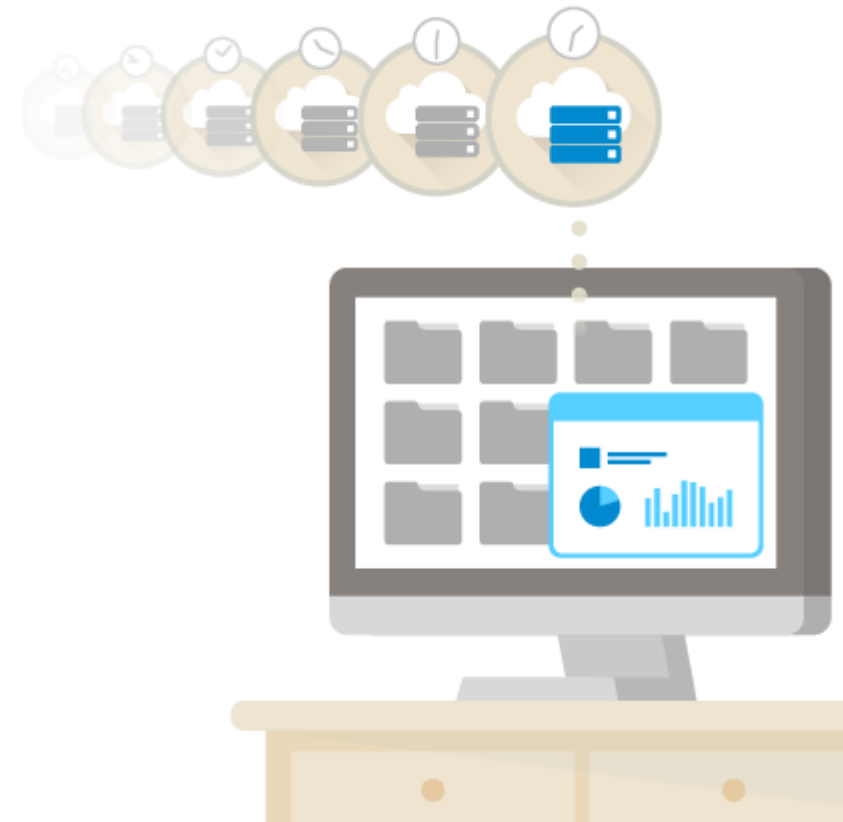


- **Manages various detection patterns**
- **Provides statistical information along with functions to check the detection by document drives**
- **Provides user management functions**
- **Provides administrator management functions**
- **Provides personal information detection guidance e-mail for individuals, 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**



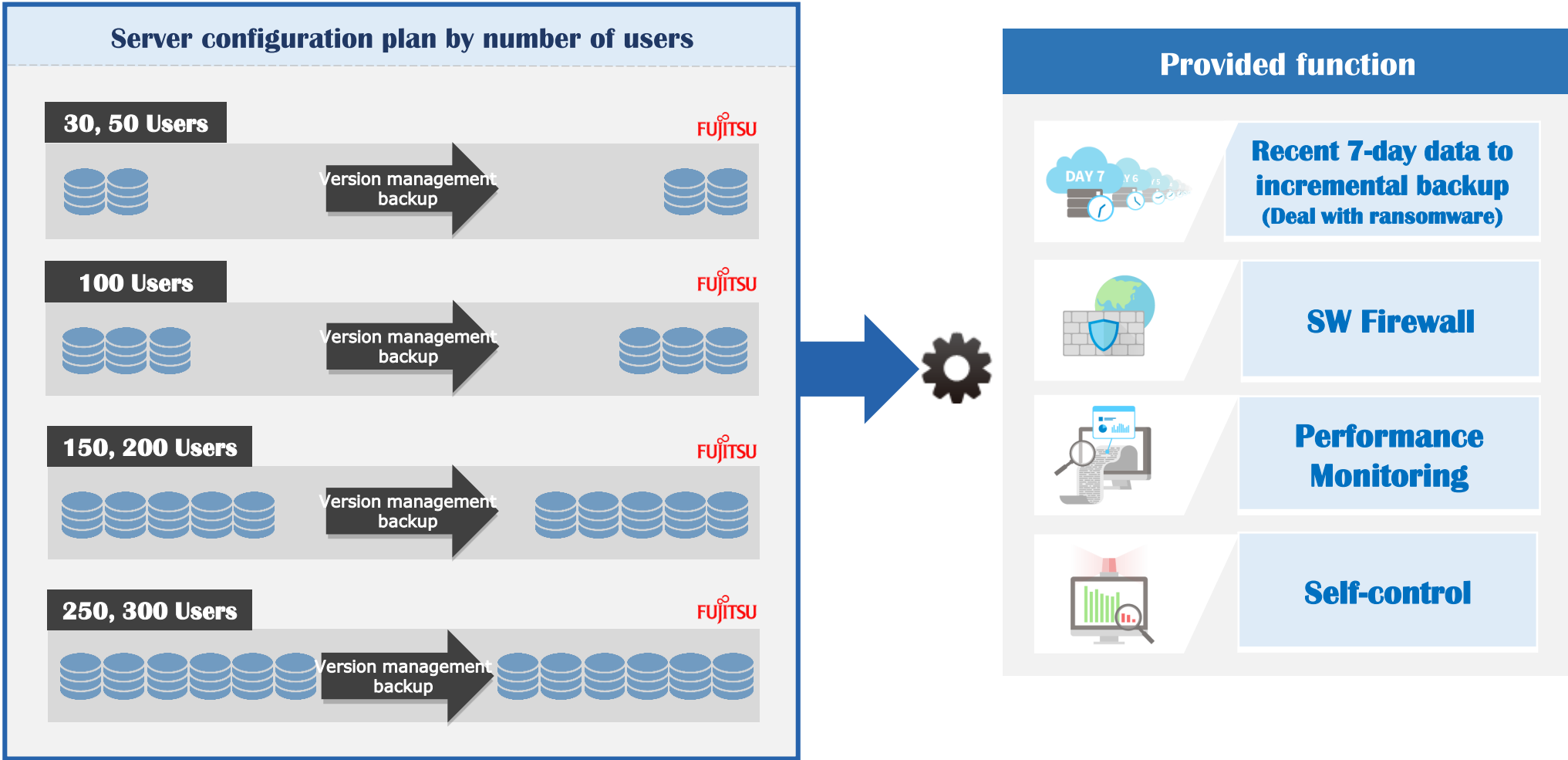
ClouDoc Features

Compatibility	Security	Extendibility
		
Exclusive Windows Explorer drive technology-based compatibility for performance, stability, network, security, etc.	Hash value based security architecture , not program name	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.



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

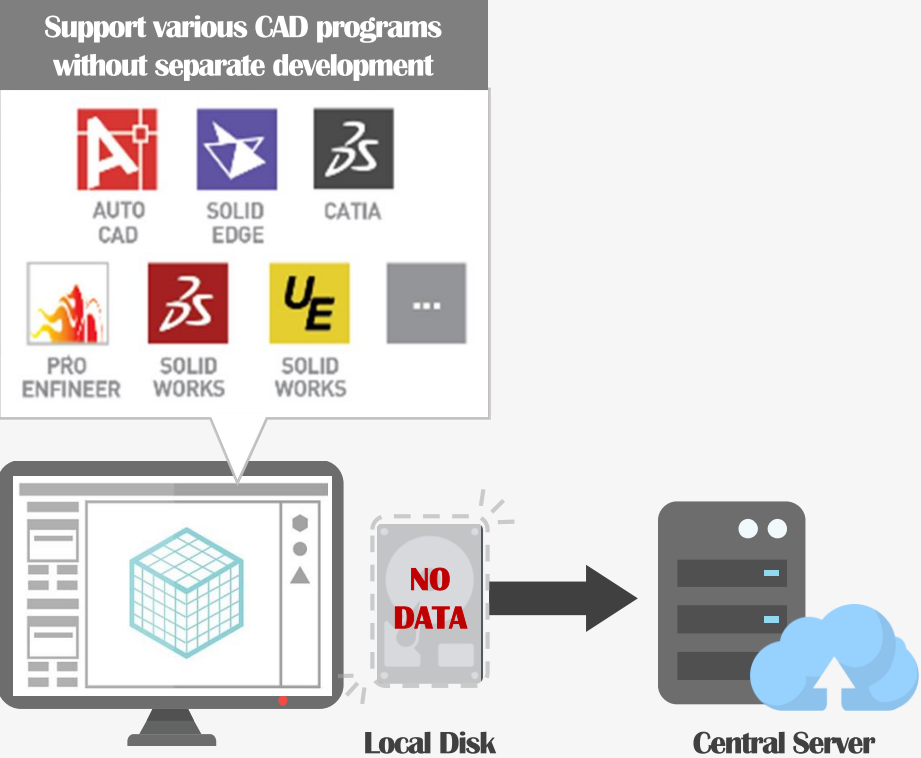
Provide e-mail notification function for net ID, **customer's contact person in case of emergency** through self-control over CPU, RAM, disk, services, etc.

Reference



<div><p>Large enterprises</p></div>	<div><div><div>SK Telecom</div><div>SK academy</div><div>SK E&S</div><div>SK telink</div><div>SK life science inc</div><div>SAMSUNG</div><div>LG전자</div><div>GS</div><div>LOTTE</div></div><div><div>JW 중화제약</div><div>KOREAN</div><div>Standard Chartered SC</div><div>서울우유</div><div>오리온</div><div>녹십자 (주)</div><div>KUMHO TIRE</div><div>ASIANA IDT</div><div>TOYOTA</div><div>KEPCO</div></div><div><div>SUNGJOO</div><div>광주은행</div><div>OCI</div><div>SeAH 세아제철</div><div>AIR BUSAN</div><div>농심</div></div></div>	<div><div><p>Supplied 50 companies in 2016!</p></div></div>			
<div><p>Semiconductor</p></div>	<div><div><div>JAT</div><div>GREEN OPTICS</div><div>SEMICON LIGHT</div><div>APTC</div></div><div><div>LUKEN technologies</div><div>동부하이텍</div><div>STI</div><div>TEL</div></div><div><div>UTECH</div><div>Hanyang ENG</div><div>FIRSTONICS</div><div>CNIS</div></div></div>	<div><p>Automobiles</p></div>	<div><div><div>Wolverine</div><div>TOYOTA</div><div>KUMHO TIRE</div><div>S&S Metal</div></div><div><div>M PRO</div><div>COAVIS</div><div>SAERON</div><div>Fibree</div></div><div><div>HYUNDAI</div><div>FEDERAL MOGUL</div><div>Sam-shin</div><div>SINDO</div></div></div>	<div><div><p>Distribution/Service</p></div></div>	<div><div><div>SUNGJOO</div><div>LOTTE</div><div>NH무역</div><div>(주)뉴우바이오</div></div><div><div>STYLE NANDA</div><div>DONGWHA</div><div>AMBASSADOR</div><div>ASSESTA</div></div><div><div>법무법인 일선</div><div>참동택배</div></div></div>
<div><p>IT</p></div>	<div><div><div>SK telink</div><div>SK telecom</div><div>kt</div><div>LG전자</div></div><div><div>LIG System</div><div>ubiQuoss</div><div>DASAN</div><div>DISK</div></div><div><div>HOSTWAY</div><div>Hello solution</div></div></div>	<div><div><p>Medical/Pharmaceutical</p></div></div>	<div><div><div>JW 중화제약</div><div>녹십자 (주)</div><div>(주)삼오제약</div><div>SK life science inc</div></div><div><div>ViroMed</div><div>AIMMED</div><div>Medytox</div><div>daewon</div></div><div><div>OsteoSys</div><div>C&R</div><div>제일약품</div><div>Gtree BNT</div></div></div>	<div><div><p>F&B</p></div></div>	<div><div><div>서울우유</div><div>오리온</div><div>GN FOOD</div></div><div><div>kyochon</div><div>HighLand</div><div>ILDONG</div></div><div><div>East Bulk Bakeries</div><div>농심</div></div></div>
<div><p>Finance</p></div>	<div><div><div>Standard Chartered SC</div><div>SAMSUNG</div><div>KDB인프라</div><div>NCT</div></div><div><div>KOREAN</div><div>광주은행</div><div>ACT CASH</div></div><div><div>MONEY</div><div>HARVEST</div></div></div>	<div><div><p>Defense industry</p></div></div>	<div><div><div>DACC</div><div>DACC</div><div>Neuros</div></div><div><div>HKC</div><div>(주)수퍼센츄리</div><div>KIPCO</div></div><div><div>KHNT</div><div>KCEI</div></div></div>	<div><div><p>Public/Educational institutions</p></div></div>	<div><div><div>KEPCO</div><div>서울특별시</div><div>인천광역시교육청</div></div><div><div>서경대학교</div><div>경기도시공사</div><div>한국에너지기술연구원</div></div><div><div>울산과학기술대학교</div><div>한국에너지기술연구원</div></div></div>
<div><p>Chemistry/Energy</p></div>	<div><div><div>OCI</div><div>SK E&S</div><div>KEPCO</div><div>주석화사충남도지사</div></div><div><div>ENERGYEN</div><div>대성그룹</div><div>PIELDS engineering</div><div>YONSUNG</div></div><div><div>POONGWON</div><div>KELEC</div></div></div>	<div><div><p>Civil engineering/Architecture</p></div></div>	<div><div><div>GS</div><div>SAMSUNG</div><div>WOSEM</div></div><div><div>usun</div><div>하이엔텍</div><div>울진화학(주) 울산</div></div><div><div>(주)부일기술공사</div></div></div>	<div><div><p>Overseas</p></div></div>	<div><div><div>SAERON</div><div>Canon</div><div>SANGBO</div></div><div><div>SK life science</div><div>KUMHO TIRES</div></div></div>

Appendix. Use Cases - CAD drawing security



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.**

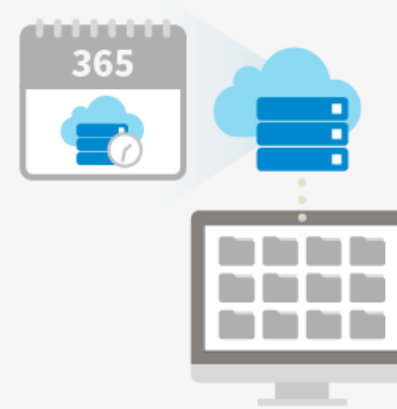
Features

- 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

Application case	Applied to Samsung Card, NICE Evaluation Information, etc.
Application subject	Apply to places with a lot of personal information such as Portal, Communication, Hospital, Finance ...

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

Application case	Applied to Hydako, Kwang Ju Bank, etc.
Application subject	Promising to apply to SW such as banking, electronic wallet, etc. where source code security is important other than game companies

Application plan and introduction effect

- Centralize and protect all outputs such as design documents and source code through document centralization.
- Useful as providing source code security features that cannot be protected by existing DRM solution.

Appendix. Use Cases – Paperless work environment

Application case	Applied to Korean Re paperless work environment
Application subject	Companies that need to reduce operating expenses and storage / destruction due to paper document management

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

Appendix. Use Cases – Compliance countermeasure including ISMS

Application case	Tokyo Electron Korea International ISO 27001 certification countermeasure
Application subject	<ul style="list-style-type: none">• 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

Application case	Applied to Sungjoo Group, SK Telecom
Application subject	Companies that introduced VDI but need more useful document management than NAS
Application plan and introduction effect	
<ul style="list-style-type: none"> 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

Application case	SK telink introduces document centralization in existing network separation environment
Application subject	Companies that need efficient management of internal network documents and secure data sharing between network

Application plan and introduction effect
<ul style="list-style-type: none"> 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

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

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.)