

insight to **!nspiration**

Samsung SDS

IT Infrastructure Service & Solution



SAMSUNG SDS



Trends & Issues

Business paradigms are changing as SMAC(Social, Mobile, Analytics, Cloud)-based technology spreads.

Additionally increased complexity, and interconnection among systems has establish IT core success factor.



Stable management of IT infrastructure is directly connected to **business continuity and success.**

Sustainable infrastructure inspection and improvement
through professional assessment tools

Standard processes and operations support system
to integrate your IT infrastructure management

Professional technical competence
covering all infrastructure areas



Samsung SDS Infra Business Unit

Overview

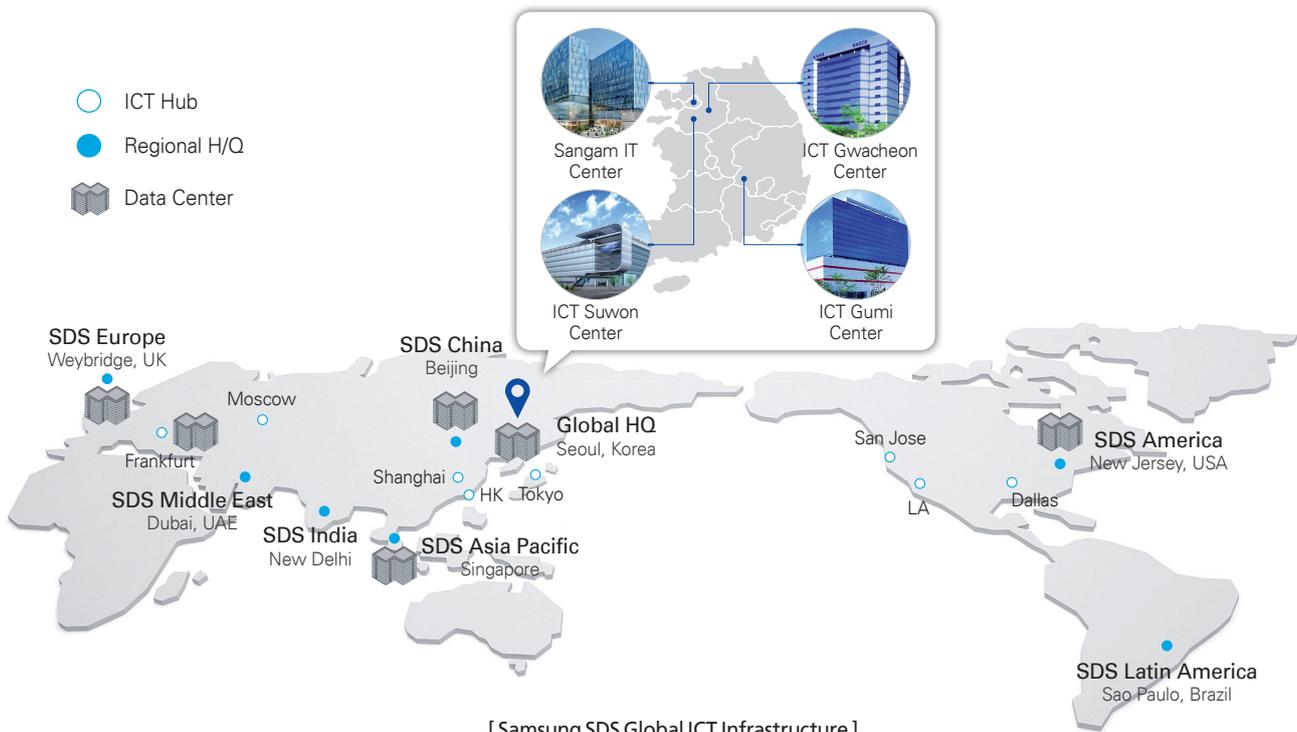
With a world-class data center, 2,000 infrastructure specialist, and more than 30 years operating know-how, Samsung SDS Infra Business Unit provides services & solutions to your entire IT infrastructure area.

2,000 IT infrastructure technical engineers

71% Technical engineers 78% Officially certified specialists

30 years operation experience & know how

500 Customers Domestic customers companies and global customers
 100 Vendors / IBM, HP, Oracle, Cisco, SAP etc.
 60,000 Equipment



Samsung SDS IT Infrastructure Service

- **Data Center Service**

Samsung SDS implements and securely operates clients' IT infrastructure based on state-of-the-art data center infrastructure and the best operational management specialists in Korea.

Pay-per-use

IDC

ITO

Infrastructure
Assessment

Samsung SDS
MAXIGENT
Plus

- **Cloud Service**

Cloud service provides the customized cloud solution that reduces TCO and enhances security and operational flexibility by leveraging virtualization technology. For the various areas in related with the installation and advancement, it provides comprehensive service ranging from strategy planning, design, to establishment.

VDI

IaaS

DBaaS

Managed
Cloud

- **Network Service**

Due to rapidly growing traffic, changes in the market, and the need for rapid decision-making in business, it is important to establish a reliable and efficient network environment.

Local
Data Comm.

Global
Data Comm.

Samsung SDS
RAPIDANT

- **Security Service**

Protect corporate information assets from external intrusion and threat, prevent information asset loss and leakage through internal IT terminals.

Managed
Security

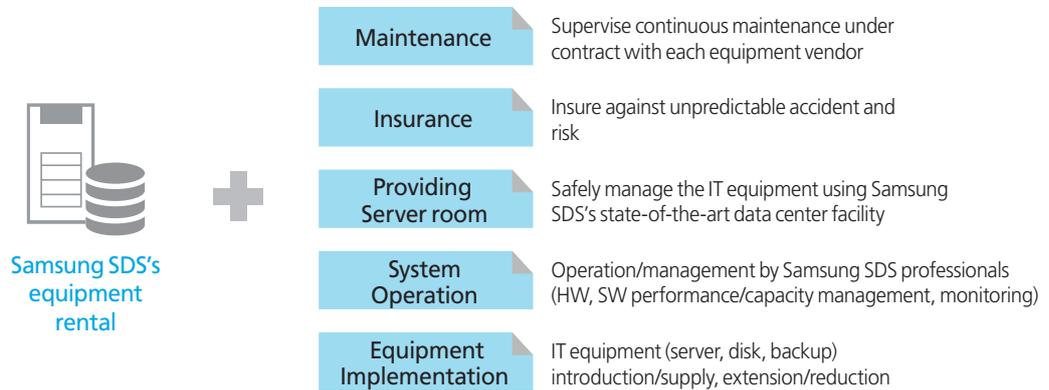
Security
Solution

Samsung SDS
Workstation
Security

Data Center Service

Pay-per-use

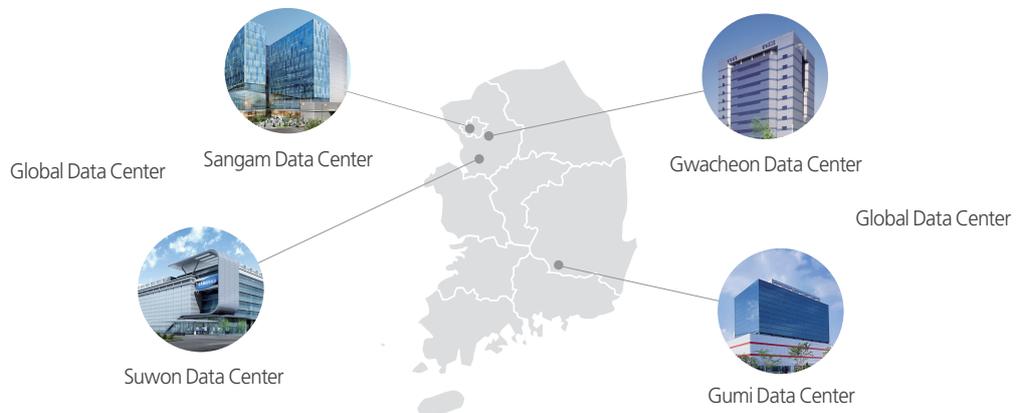
As an IT infrastructure operation and management service, enable clients to pay a monthly service fee to use Samsung SDS IT infrastructure, facilities and expertise as much as they need without incurring the expense of their own IT source. Samsung SDS is responsible for providing effective integrated management from IT asset investment to operating management.



Disaster Recovery

Implement/operate a disaster recovery system at a remote site in preparation for disaster or calamity. Provide comprehensive services associated with disaster recovery such as disaster recovery consulting, implementation, operating, simulation and enable quick and safe recovery in the event of security breach, physical disaster, or human error.

- Provide total disaster recovery service from process, system, data center, to network circuit
- Organize the most appropriate disaster recovery scenario that best fits client's situations and locations based on distance between disaster site and domestic or global data centers
- Provide worldwide disaster recovery service via global data centers



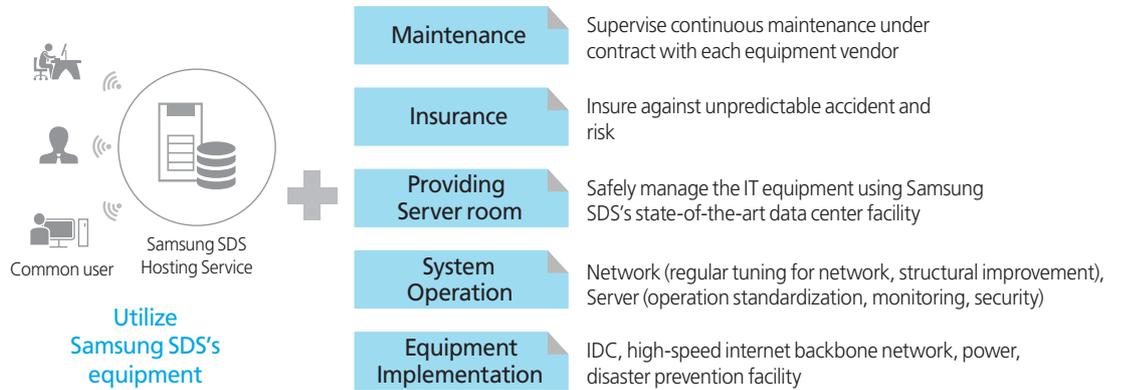
※ DR : Disaster Recovery



Provide Samsung SDS IDC and network infrastructure to operate client's web service. Deliver total service from HW, SW design to implementation and operation/management appropriate for client's web service needs using experts.

Hosting

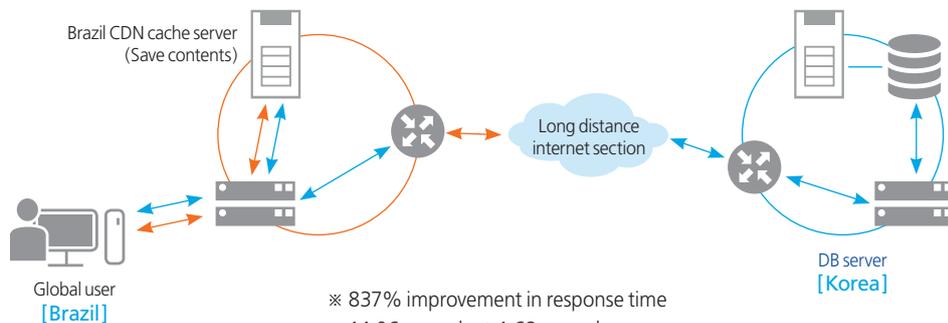
Samsung SDS hosting service enables clients to easily operate their web service. Clients are able to use a stable web service in any global locations, and to receive integrated management taking into account their own web service characteristics.



CDN

This service is a long-distance, high-speed transporting service for clients who operate a web service. CDN delivers web contents quickly and reliably to users all over the world, and when web usage surges, local cache server distributes and processes traffic of original server in order to provide stable, high-speed service.

- Save contents in local cache server and minimize transferring interval
→ Maximize transferring speed

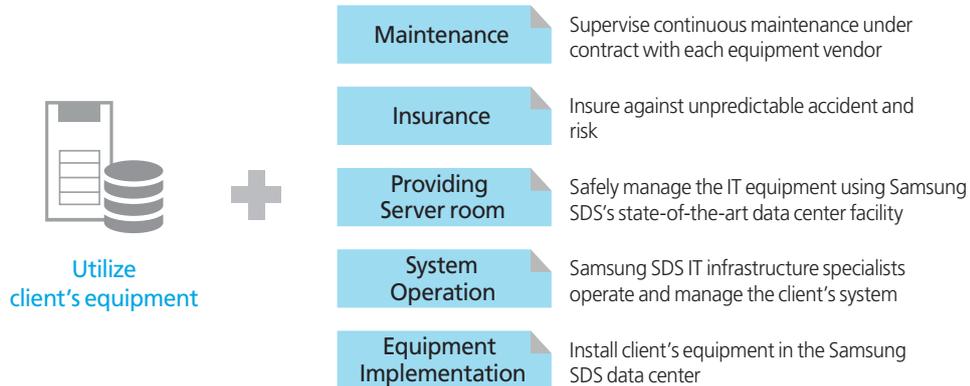


※ CDN : Contents Delivery Network

[Examples of using CDN service in Brazil]

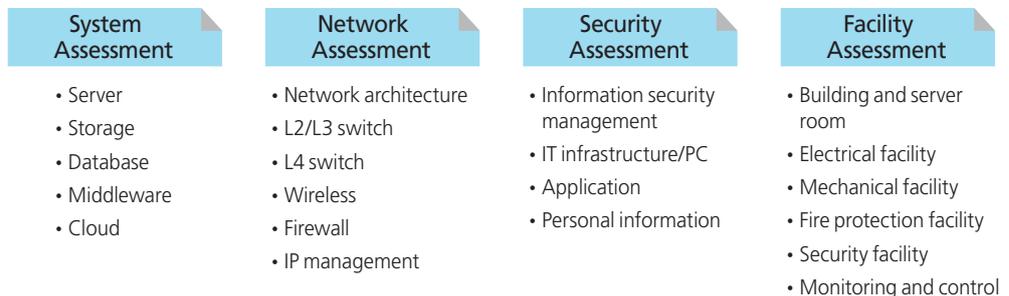
ITO

Enables Samsung SDS professionals to operate and manage client's equipment leveraging IT infrastructure and facilities. Samsung SDS is entrusted to operate client equipment and to manage business information in accordance with legal standards, and ensures data stability and operational expertise.



Infrastructure Assessment

Samsung SDS Infrastructure Assessment was created by incorporating standard assessment checklist for servers, databases, storage etc. from IT infrastructure vendors in conjunction with actual failure cases experienced in Samsung companies. By removing potential threats that can cause service disruption, it ensures optimized infrastructure configuration and setting.

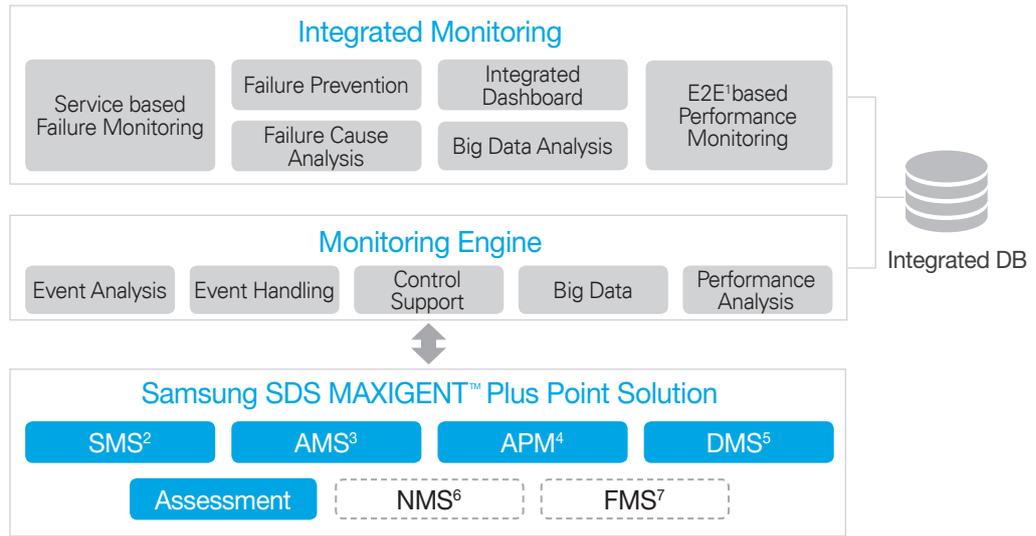


Key Features

- Experience in large-scale infrastructure operation know-how and failure improvement
- Execute assessment quickly and accurately using automation
- Suggest comprehensive infrastructure evaluation level and improvement roadmap

..... Samsung SDS MAXIGENT™ Plus

Samsung SDS MAXIGENT Plus helps protect your IT systems through anomaly detection, the key to preventing system failures. It also enables prompt recovery through swift detection and accurate failure cause analysis.



¹ E2E : End-to-End Performance Tracking
² SMS : System Management Software
³ AMS : Application Monitoring Software
⁴ APM : Application Performance Management
⁵ DMS : Database Monitoring Software
⁶ NMS : Network Management System
⁷ FMS : Facility Management System

 Linked with 3rd party solution

Point Solution

SMS (System Management Software)

Provide integrated monitoring and failure cause analysis by collecting IT infrastructure management information on servers, databases, and networks.

AMS (Application Monitoring Software)

Provide failure diagnosis, cause analysis, and resolutions through multi-layered monitoring of business applications.

APM (Application Performance Management)

Analyze system performance bottlenecks and failure causes through real-time transactions analysis of web servers and applications.

DMS (Database Monitoring Software)

Analyze failure causes and provides comprehensive management of structure, performance and capacity.

Assessment

Prevent system failures by identifying vulnerabilities through vigilant IT infra assessment and then propose optimized structure and settings.

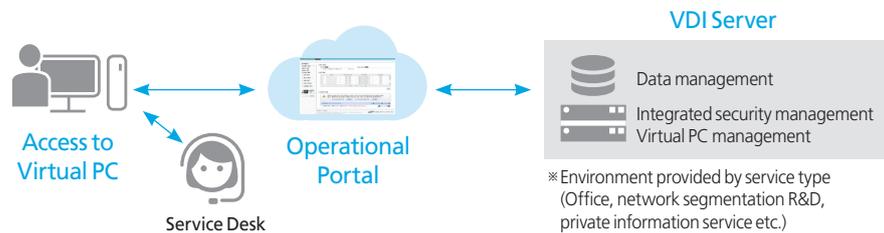
Cloud Service

VDI (Virtual Desktop Infrastructure)

By connecting to VDI which is a virtual PC environment, users can experience the same business environment as working in the office.

Service Offering

- The same PC working environment with office
- Optimized virtual PC environment regardless of PC performance
- More efficient and powerful integrated security environment than traditional PC workplace
- 24x7 365 days reliable service through failure prevention activity and dedicated team

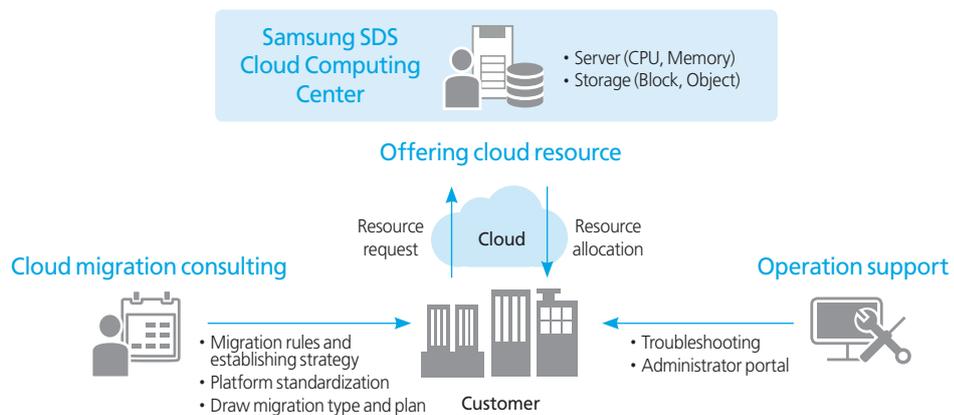


IaaS (Infrastructure as a Service)

IaaS is a service to provide network-based IT infrastructure using pay-per-use pricing. With reasonable pricing and installation cost savings, you can experience cost-effective IT infrastructure.

Service Offering

- IT resource reflecting virtualization technology
- Server, storage, and additional service optimized for working environment
- Applying global level security system
- 24x7 365 days reliable service through failure prevention activity and dedicated team



DBaaS (Database as a Service)

DBaaS service enable you to use whole DB services including HW, SW purchase/installation and operation required for DB server configuration with reasonable prices in cloud environment.

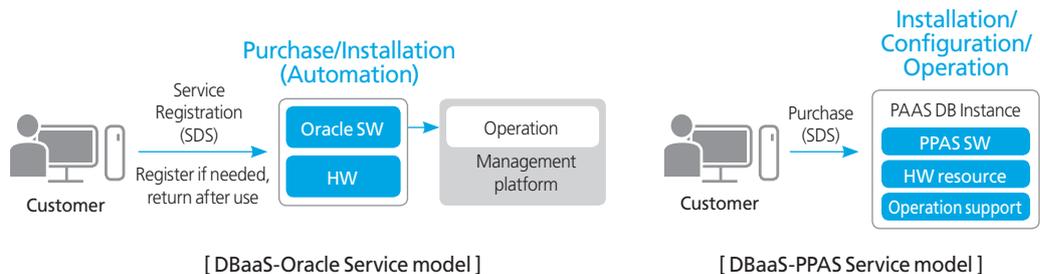
Service Offering

DBaaS-Oracle

- In cloud environment, configure DB pool on the basis of Oracle Exadata.
- Exadata server is a specialized device for Oracle DB SW performance/availability compared to common x86 servers.
- Operations management solution is used for managing resources in a cloud environment such as monitoring, automated installation.

DBaaS-PPAS

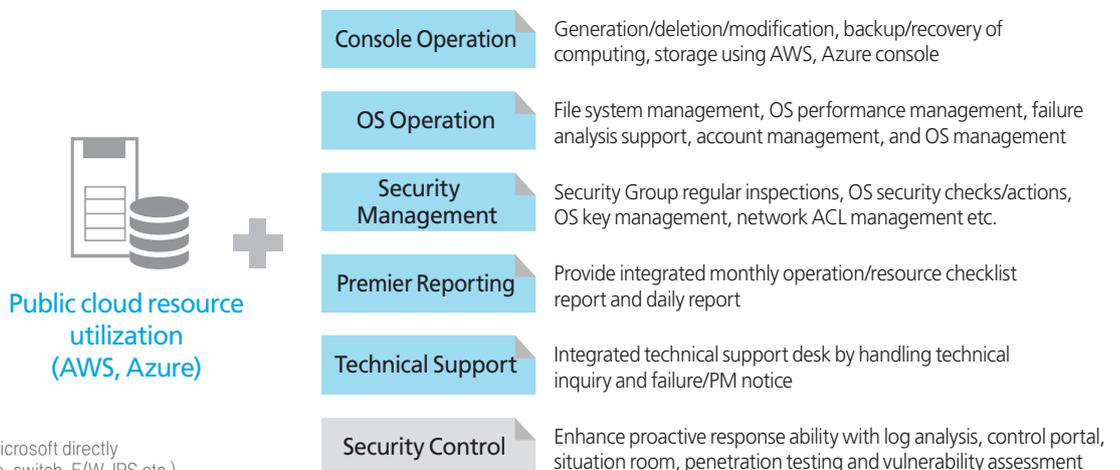
- In cloud environment, configure DB pool on the basis of PPAS DBMS SW.
- PPAS (Postgres Plus Advanced Server) is a enhanced Oracle compatibility product based on the open source PostgreSQL.
- Operations management solution is used for managing resources in a cloud environment such as monitoring, automated installation.



Managed Cloud

Managed cloud offers public cloud such as Amazon AWS, Microsoft Azure with professional operation service.

Service Offering



※ HW is run by Amazon, Microsoft directly (Host OS, server, storage, switch, F/W, IPS etc.)

Network Service

Local Data Communication

Provide circuit service for data communication between local business sites, and design/implementation/operation management service of network equipment for an optimal communication environment.

Circuit Service

High-quality, corporate-dedicated network service of powerful security features

- DWDM (Dense Wave Division Multiplexing) : High-speed circuit of greater than 100Mbps using an optical network
- Local Dedicated Circuit : Low-speed circuit of less than 2Mbps using TDM (Time Division Multiplexing) transport network

Low-cost corporate-dedicated network service

- MPLS VPN : Provide safe communication between headquarters and branches using MPLS network and VPN equipment

Internet Access Service

Internet firewall and outgoing control service

- Samsung Private Internet : Provide authorized IP address and firewall service restricted to Samsung companies use
- Group Network Access : Provide a communication path for access between Samsung companies and mySingle access

Simple internet access service

- Metro Ethernet : Internet access using high-speed bandwidth
- Internet Only Circuit : Internet access using low-speed bandwidth

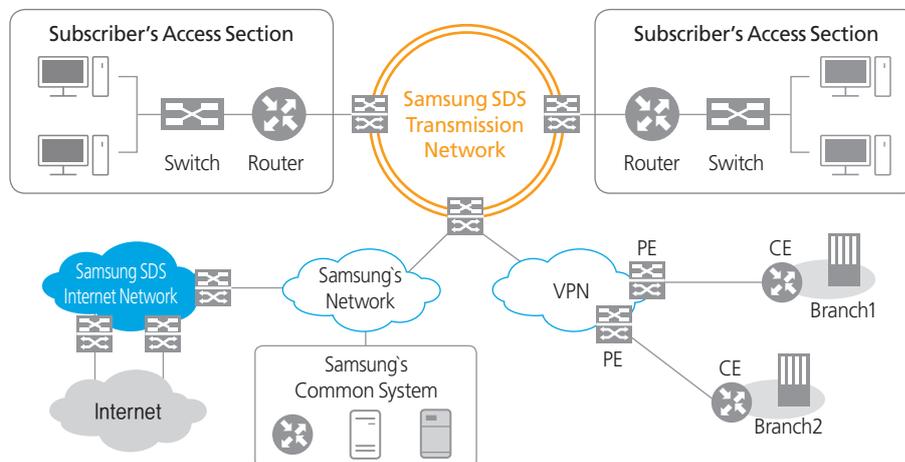
Additional Service

Provide safe communication environment service

- SVPN : Provide safe VPN service by data encryption using VPN S/W

Corporate wireless LAN service for business note PC and smart phone use

- u-Ready (Wireless LAN) : Organize wireless LAN infrastructure at business sites, and provide a secured, enhanced wireless LAN access environment



Global Data Communication

Provide circuit service for data communication between global business sites, and design/implementation/operation management service of network equipment for an optimal communication environment.

Backbone Service

Connecting service among local and global communication bases

- Global Network Access : Access to Samsung's private backbone network through Samsung SDS's global backbone network
- Global BW : Provide dedicated high bandwidth for clients through Samsung SDS's global backbone network

Circuit Service

Connecting service between global communication base and global business site or between global business sites

- Global Branch Line : Provide optimum circuit service considering communication environment by country (MPLS, Ethernet, ATM, TDM circuit, optical/microwave/satellite etc.)

Internet Access Service

Global internet interworking service

- Global Internet Access : Provide high speed internet service through Samsung SDS's global center dedicated network
- Global Access VPN : Access to communication base through internet access or security channel (VPN) at global business site

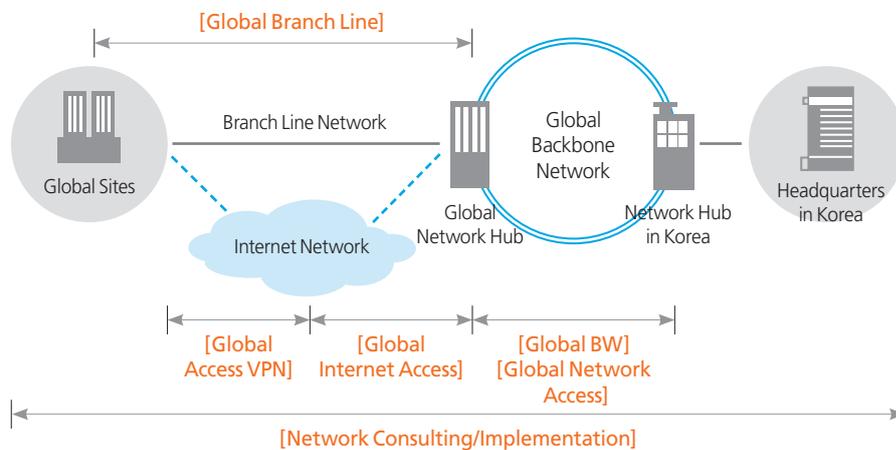
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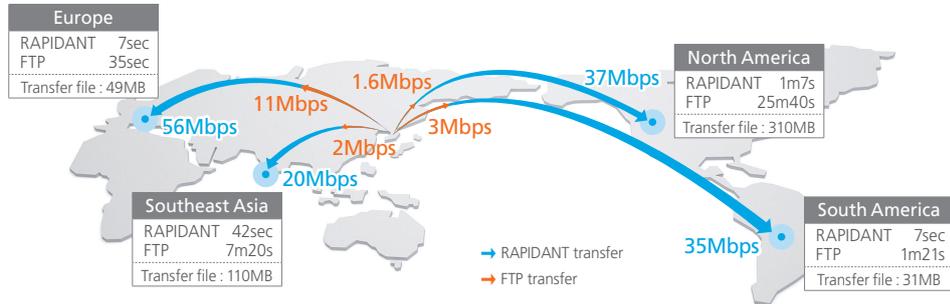
Corporate wireless LAN service for business note PC and smart phone use

- u-Ready (Wireless LAN) : Organize wireless LAN infrastructure at business sites, and provide a secured, enhanced wireless LAN access environment



■ ■ ■ Samsung SDS RAPIDANT™

Samsung SDS RAPIDANT is a software-based high speed data transfer solution which enables low cost, high efficiency network, and improves transfer speeds.



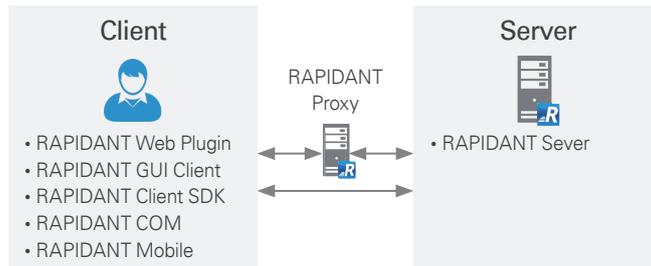
[Transfer speed comparison of RAPIDANT and FTP]

Key Features

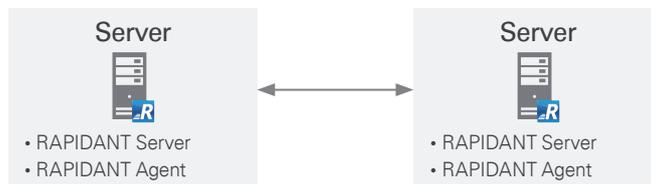
- **SPEED** : Supports both TCP and UDP, High speed transfer of large capacity/quantity file
- **STABLE** : Automated retransfer, Double checked integrity, Enhanced security features
- **SMART** : Automatic synchronization, Convenient system connection, Efficient bandwidth management, Real-time monitoring and reporting

Solution Configuration

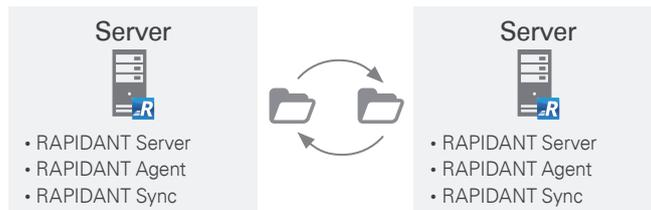
Client-Server File Transfer



Server-Server File Transfer



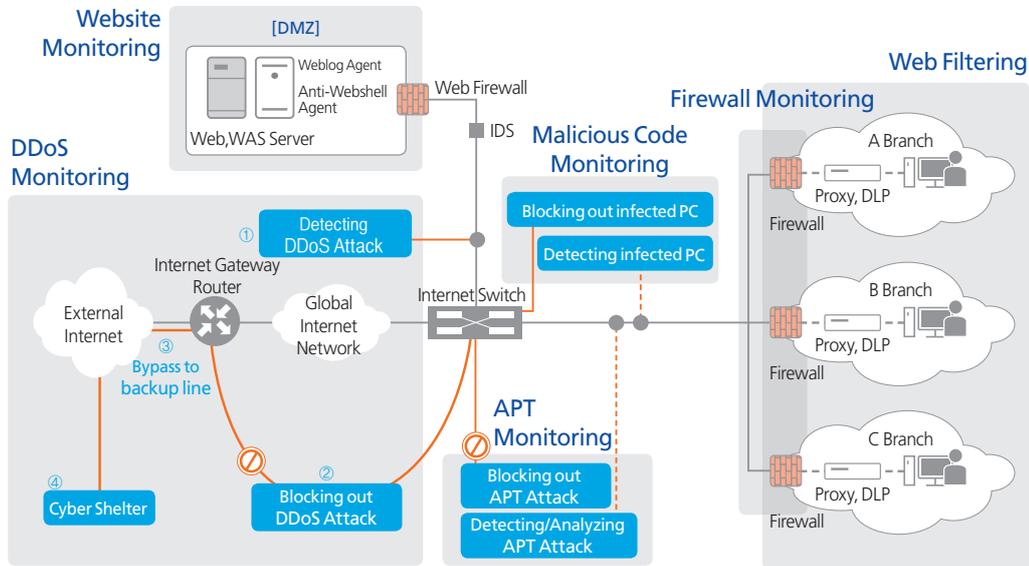
Server-Server File Synchronization



Security Service

Managed Security

Provides 24x7 detection and blocking service for security attacks (DDoS attack, hacking attempt, malicious code inflow) on IT infrastructure and website.



※ Webshell : Malicious script exploiting application's vulnerabilities to command the system

Prevent Website Attack

Protect website from external hacking attempt and security attacks

- Website Monitoring Service : Detect and respond to external website hacking attempts in real time in order to protect our client's website
- DDoS Monitoring Service : Detect DDoS attack inflow on Samsung's website and block traffic in case of attack

Prevent Information Leakage

Block abnormal communication with outside and prevent leakage of internal information

- Firewall Monitoring Service : Collect all outgoing traffic from Samsung's gateway firewall to outside, and analyze/respond to malicious traffic occurrences
- Malicious Code Monitoring Service : Quickly detect attack that exploits Samsung's PC and block communication with external commanding server and prevent internal PC information leakage
- APT Monitoring Service : Detect/block abnormal attack from infected PC by APT malicious code to prevent corporate information leakage and internal system disorder
- Web Filtering Service : Provide real-time logging and automatic block service for non-business sites and potential information leakage sites



Security Solution

Solutions prevent data leakage and system failure in advance by detecting malicious behaviors, malicious code, website hacking and etc.

APT Monitoring

APT solution that prevents data leakage and system failure in advance by detecting malicious behaviors on PCs under APT attacks

- Protection against APT attacks through process of 「Internet traffic collection - Malicious code analysis - Abnormal communication prevention」

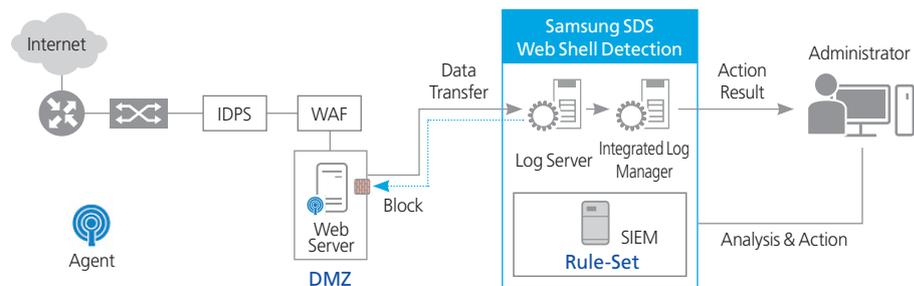
Malicious Code Monitoring

Malicious code and C&C server communication detection solution

- Signature-based detection and analysis of security threat/abnormal traffic
- Real-time monitoring and multi-layered detection/prevention of abnormal traffic

Website Monitoring

Real-time website hacking detection and prevention through web shell upload inspection and web log analysis



Firewall

Respond to ever-changing network security threats with user-based application behavior control, data security, DDoS protection, and web vulnerability analysis

- Application and user-based identification and control
- Protect personal and corporate information
- Control access to malware distributing sites using URL reputation DB

IPS

Provide a wide range of defense mechanisms against advanced attacks such as precautionary assessment, threat detection, attack blocking, and leakage prevention beyond conventional signature-based IDS/IPS

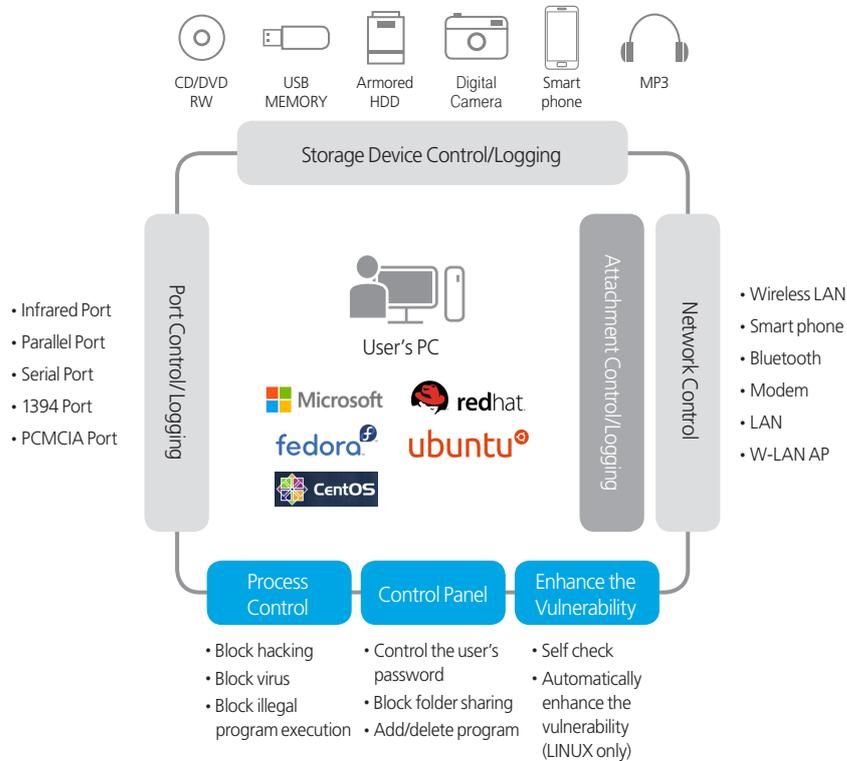
- Detect DDoS attacks, exploits, and web vulnerability attacks and control applications
- Adopt application visibility and build strong defense capability through full stack inspection
- Provide IP blacklist, vulnerability data, and malware hosting and distribution sites

Samsung SDS Workstation Security

Provide integrated PC security service to prevent illegal leakage of information assets by control of employees' PC for enterprise use and document security.

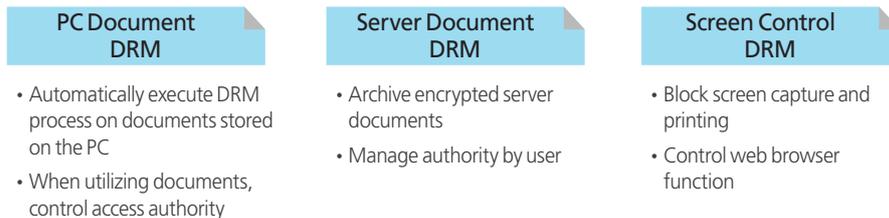
Samsung SDS Workstation Security -PC

Block possible PC information leakages in advance by controlling PC storage device and network usage, and remove security vulnerabilities



Samsung SDS Workstation Security -Document

Encrypt the electronic document and control permissions of the document in order to prevent information leakage



Uniqueness of Samsung SDS Infra Business Unit

With our world-class data center, and technology capability we provide service & solutions covering entire IT infrastructure area from assessment, implementation, operation, to maintenance.

24x7 365 days, state-of-the-art data center

Samsung SDS data center prioritizes stability, scalability, efficiency in operating your infrastructure across the world.

- 4 data centers in Korea(Sangam, Suwon, Gumi, Gwacheon), 5 global data centers (USA, UK, Germany, China, Singapore)
- Implement a complete infrastructure, efficient operating systems and strong physical security systems

Differentiated professional operating personnel and support system

Sector specialists provide operational support system, and optimized solutions to ensure your stable IT infrastructure operations.

- Organize professional staff and dedicated group per sector/industry/ vendor of IT infrastructure
- Have international standards process and IT infrastructure operational support systems

Service & solution optimized for IT infrastructure operation

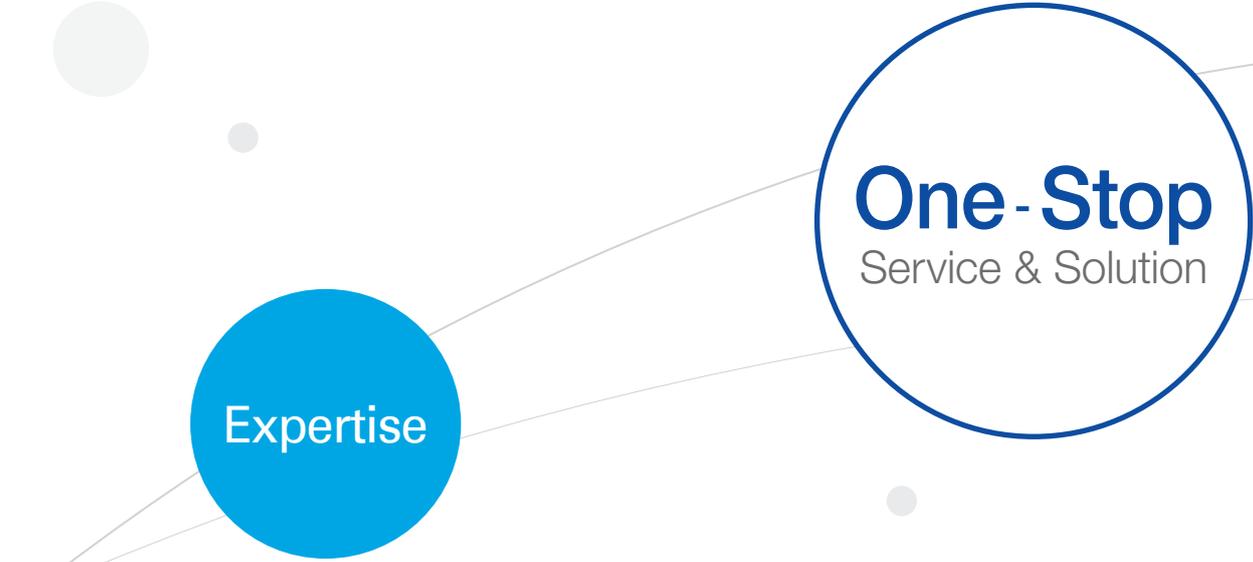
Samsung SDS Infra Business Unit has total IT infrastructure service & solution which is a culmination of Samsung operation know-how for 30 years.

- Provide stable and efficient datacenter, network, cloud, security service
- Provide optimized self-solution that is required from IT infrastructure assessment, implementation, operation, to maintenance



Accumulated knowhow and experiences dealing with assessment, implementation, operation, maintenance of 500 customers, 100 vendors and 60,000 pieces of equipment

Provide you with comprehensive Samsung SDS solutions that cover the entire IT infrastructure areas for multi vendors reflecting the individual characteristics of multi industry



Expertise

One-Stop
Service & Solution

Apply time-tested solution proven by Samsung SDS's operation

- Samsung SDS MAXIGENT Plus
- Samsung SDS RAPIDANT
- Samsung SDS Workstation Security

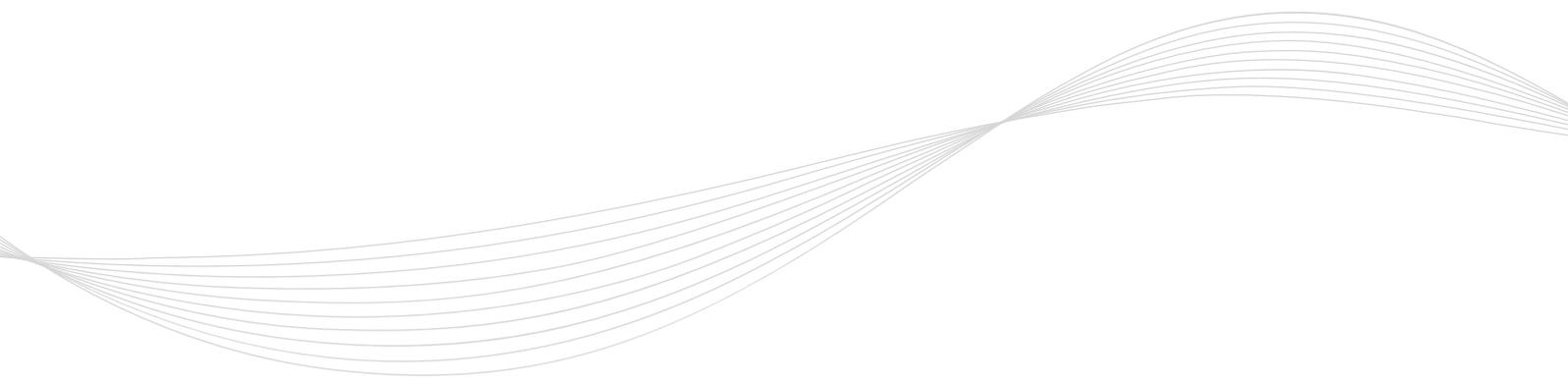
Provide one-stop service & solution for entire IT infrastructure area

dealing with business characteristics and operation know-how
for all types of industries

insight to **!nspiration**



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