# System Integration and Solutions Service

Toshiba develops and provides various solutions from fundamental information technologies thru to practical systems that exploit them in order to construct a more safe and secure society. Toshiba is focusing on developing solutions to provide not only more sophisticated functionality for reliability, availability, usability, convenience etc. but also to ensure the protection of personal information to meet the demands of the times.

DNCWAREClusterPerfect® EX Autonomic Computing Cluster Software

DNCWAREClusterPerfect® EX, high availability (HA) cluster software, realizes autonomic computing. Autonomic computing is a technology that builds self-managing IT infrastructures and reduces management cost.

DNCWAREClusterPerfect® EX implements "workload provisioning" and "HA provisioning" in multiple operating systems. Workload provisioning adjusts the number of active servers based on system loads. HA provisioning substitutes a spare server for a server predicted to fail.

With these features, DNCWAREClusterPerfect® EX enables high availability and stabilizes response time, making efficient use of server resources.
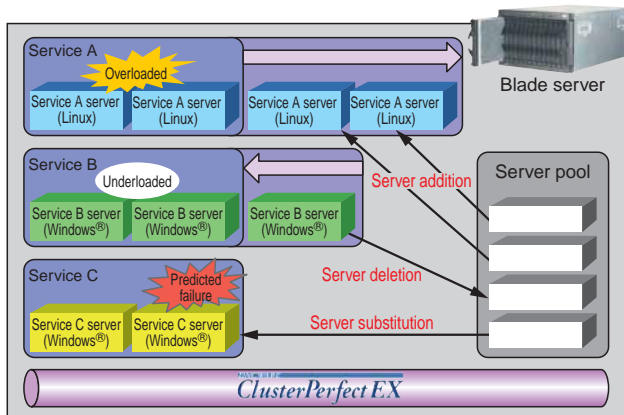
Autonomic computing with DNCWAREClusterPerfect® EX

"Windows" is a registered trademark of Microsoft Corporation in the United States and other countries.

"DNCWARE" and "ClusterPerfect" are registered trademarks of Toshiba Solutions Corp. in Japan and other countries.

Anonymous Authentication Technology for Privacy Protection

The personal information protection law is now fully in force in Japan, and it was put in place in order to ensure that enterprises manage personal data strictly. In order to properly regulate personal data transactions, Toshiba Solutions Corporation has developed an anonymous authentication technology which uses a group signature scheme. Service providers need not manage personal data, because they can authenticate their clients without using personal data at all.
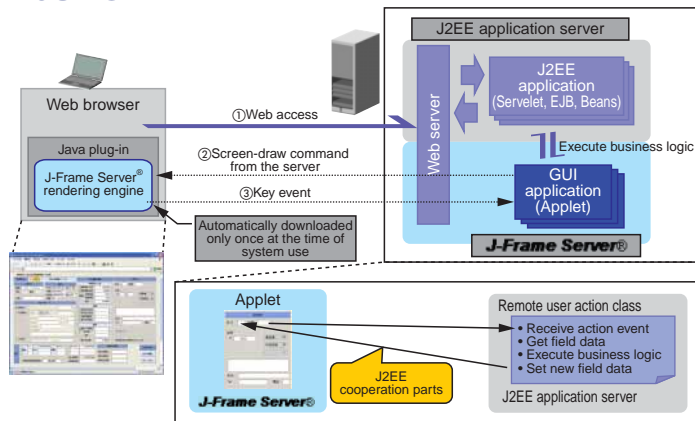
This scheme satisfies the following requirements: anonymity, unlinkability, traceability, exculpability, and coalition-resistance. Service providers can be paid for their services without their client being identified, because they can authenticate their client by simply verifying the client's group signature using the group public key. Based on the anonymous authentication technology, we have been able to realize an anonymous order system.

In addition, we have proposed a new scheme, in which the group signature can be generated safely on client/server systems. This scheme decreases the computational complexity to 1/10 or less on the mobile terminals. Even a cellular phone can generate a group signature, because the majority of the calculation can be done by the proxy server in this method.
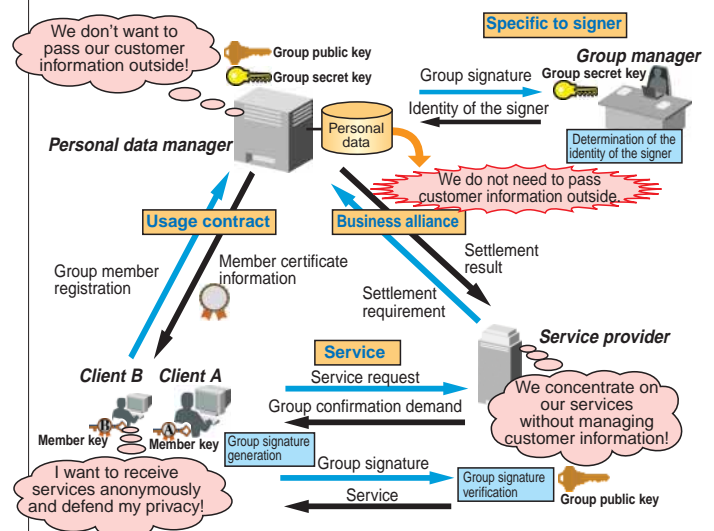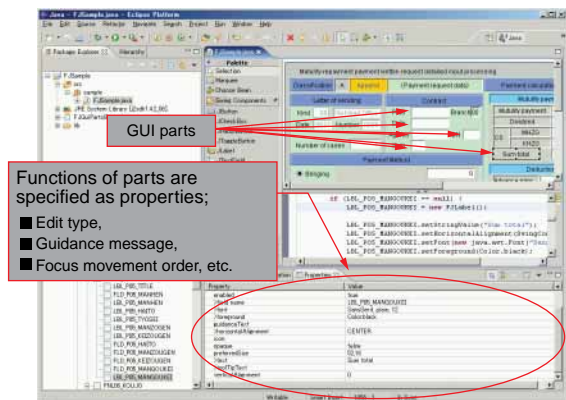

Basic model of anonymous authentication

J-Frame Server® Which Adds Advanced GUI to J2EE

Architecture of J-Frame Server®

GUI parts

Functions of parts are specified as properties;
■ Edit type,
■ Guidance message,
■ Focus movement order, etc.

Application development using Eclipse

Toshiba Solutions Corporation has developed the FlyingServ® J-Frame Server® which adds an advanced GUI to the J2EE Web System. In a J2EE environment, the use of Applets or Flash to produce a richer GUI requires overcoming the same hurdles as conventional client-server systems, such as client-server interaction, or resource and configuration management on the client side.

This product is the container in which an Applet is executed on the server, and Applets can cooperate closely with the J2EE server. Thereby, the problem can be solved and the following new merits can be achieved.

● Only the rendering engine is placed on the client. Therefore, client management is easy.

● The GUI parts and J2EE cooperation parts with JavaBeans are included in the product. Ease of application development is facilitated using an open IDE such as Eclipse.

● The product is based on the Java standard specification and can use J2EE frameworks, such as Struts.

RealLinkage Internet-Based Marketing System

RealLinkage is an Internet-based comprehensive marketing system, which "links" the customers of a client to "real" subjects, such as (1) conventional advertisements and commercials and (2) products and shops via the Internet, and enables client marketers to evaluate their marketing activities quantitatively.

RealLinkage has the following technical features:

● Customer oriented approach targeting mobile phone subscribers

Our system supports e-mail and Web-based digital campaigns and questionnaires, which are becoming popular among mobile phone subscribers nowadays in Japan.

● Real-time marketing data analysis

With a graphical user interface, our system enhances the ability of client marketers to understand customers' responses and attributes collected in digital campaigns and questionnaires quickly. In addition, client marketers can segment their customers for follow-up communication activities, such as sending e-mails to a specific group of customers for advertising.

● Gateway functionality for existing systems

Our system can cooperate with clients' existing systems and databases in a secure and flexible manner.

● Automatic content conversion

In Japan, there are three major mobile carriers and their content description languages are different. Our system converts original content to Web pages appropriately for each different specification.
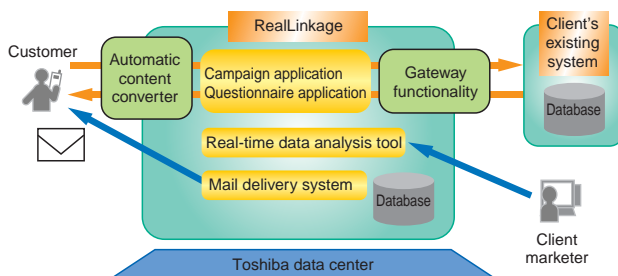
System overview of RealLinkage

GUI: Graphical User Interface
J2EE: Java 2 Enterprise Edition
IDE: Integrated Development Environment

"Java" and all Java-based marks are trademarks of Sun Microsystems, Inc. in the U.S. and other countries.

"J-Frame Server" and "FlyingServ" are registered trademarks of Toshiba Solutions Corp. in Japan and other countries.