

ConforMeeting: A Real-time Conference System Compatible with Smart Devices for Conducting Paperless Meetings

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Abstract

The recent increase in the diversity of work styles demands changes in our working environments. People are expecting to work in their favorite places and at their most convenient times, rather than working in a certain place like an office during certain hours. The “ConforMeeting” series resolves this issue. By developing it to be compatible with smart devices, the usage scenarios of the “ConforMeeting” series have been significantly expanded. It is now available for use outside offices and it can also be a great tool for seminars, etc.

This paper introduces the ConforMeeting series and its innovative usage scenarios.

Keywords

meeting solution, paperless, remote meeting, board meeting, videoconference
voice conference, efficiency, security, smart device, Android, iPad

1. Introduction

NEC Information Systems has developed and marketed two systems: “ConforMeeting/c,” to achieve real-time document sharing, and “ConforMeeting/e,” which allows corporate managers and executives to hold innovative board meetings.

Customers can select between these according to their usage scenarios.

So far, these systems have been provided to be installed on Windows PCs with the aim of conducting efficient, cost-saving meetings.

However, since smart devices have disseminated in our society, innovative usage scenarios for the ConforMeeting series have been realized by optimally utilizing the superior characteristics of smart devices, such as mobility, intuitive usability, advanced GUI, etc.

Section 2 in this paper explains the diversified needs for information sharing and conference systems in a society in which working styles are drastically changing. An outline of the ConforMeeting series as an information sharing system is described in section 3 together with conventional usage examples and, finally, innovative usage scenarios for the ConforMeeting series compatible with smart devices are introduced in section 4.

2. Drastic Changes in Work Styles and Diversified Needs for Real-Time Document Sharing and Conference Systems

The style of working in a certain office during certain hours has been widely accepted so far. However, the diversity of the recent working environment has changed such a conventional working style. People are demanding an environment in which they can work anywhere, not only in an office but also outside offices, even during a business trip and even at any hours convenient for their lifestyle.

In order to cope with globalization and the acceleration of business operations, it is expected that a working environment will be established enabling information sharing with other staff by linking anywhere, anytime and even with anybody. The systems we have developed to achieve real-time document sharing and efficient meeting arrangements are the solutions to support such demands.

According to the results of a marketing company study, the Japanese market for real-time document sharing and remote conference systems (videoconference, web conference, voice conference) may continuously expand in the future and is projected to double in three years. At the same time, the market needs for these systems have also increased. These systems were once expected to reduce staff transportation costs when holding meetings. Now, however, they are expected to have the

capability of being used in various scenarios such as education, e-learning and e-training and also to cope with BCPs (Business Continuity Plans), etc.

ConforMeeting will satisfy these various needs.

3. What Is ConforMeeting?

3.1 Features of ConforMeeting

The ConforMeeting series provides a real-time document sharing system and a remote conference system that have been developed to share information among people and to promote efficient business operations. Since its release in 2007, over 60 enterprises in various industries have employed these systems.

The features of the ConforMeeting series are as follows.

(1) Paperless operation through superior usability, just like writing on a sheet of paper

- Operation of the touchscreen panel with a stylus pen allows users to experience a feeling of smooth usability, just like writing on paper.
- Thanks to a mechanism for sharing digitized information, the labor and costs required to modify, replace and print documents can be reduced.

(2) Support for communications and collaboration making best use of IT

- What a meeting leader does with his/her device, such as writing comments, turning pages, etc., is synchronized to the screens of other meeting attendees' devices. Attendees in the meeting can see the same screen on their own

devices immediately.

- A function to highlight the important parts of a document allows users to have a clearer conversation. When key items are pointed out, discussion points will be clearer so that smooth conversation can be expected among attendees.

(3) A mechanism to avoid information leakage

- A highly secure mechanism is provided in which each document is converted into NEC's unique encrypted file format before being stored on the server.
- Accidentally leaving behind document data at a client's office, an ever-present risk with paper documents, will never happen, so information leakage even in the case of the loss of a terminal device can be avoided.

The ConforMeeting series provides two types of systems, as shown in **Table** below. Users are able to select a system according to their usage requirements.

In the following sections, the purposes as well as usage and operation scenarios of ConforMeeting/c and ConforMeeting/e are explained.

3.2 Purposes and Usage Scenarios for ConforMeeting/c

First, let us describe ConforMeeting/c. The purpose of this system is to provide an environment in which people can share documents and hold meetings with just a single-click operation at any time and anywhere without any advance preparation.

Details of ConforMeeting/c usage scenarios are as follows (**Fig. 1**).

Table Comparison between ConforMeeting/c and ConforMeeting/e.

	ConforMeeting/c	ConforMeeting/e
Main users	General staff	Key business personnel such as board members, executives, branch managers, etc.
Appropriate meeting styles	Ad hoc meetings with small numbers of attendees	Regular meetings with large numbers of attendees
	Brief meetings or conferences	Meetings requiring top security, such as board meetings, etc
	Seminars for unspecified numbers of attendees	
Procedure to attend a meeting	After logging into the server, a user specifies the meeting he or she wishes to attend, acquires the authentication provided by the meeting organizer and attends the meeting	By logging into the server, a user will attend the reserved meeting automatically.
Procedure to set up a meeting	A meeting can be held without need for preparation. The meeting date and attendees are not fixed. Any meeting documents can be uploaded and registered flexibly from each client device	A meeting organizer announces the date and time of the meeting, specifies the attendees and registers the relevant documents in advance. The meeting is held periodically
Method of saving documents	When the meeting ends, each attendee specifies the document(s) to be saved.	The document(s) are automatically stored in the cabinet together with handwritten comments.
	The URL where the relevant documents are stored is supplied by email. Users input ID and a password to download the desired documents.	In case that any file should be downloaded from the system, a meeting organizer will operate a dedicated tool to download and distribute it to the meeting attendees.
Other information	Supports Windows and Android	Supports Windows and iPad

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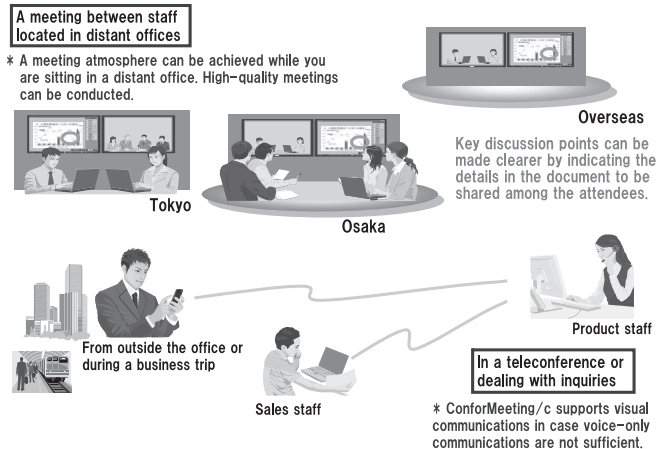


Fig. 1 Using ConforMeeting/c.

(1) Face-to-face meetings

A meeting can be started by simply bringing your tablet PC to the meeting space or conference room. Copying and printing documents and distributing them: none of this is necessary anymore to hold a meeting. Paperless meetings can be realized. Even setting up a projector is unnecessary. Moreover, the details of the meeting can be stored in the devices of each attendee so that the meeting discussion can be resumed smoothly on a subsequent day by referring to the stored notes from the previous meeting.

(2) Confirming documents with staff at a distant location

When reviewing a document among staff located in distant offices, ConforMeeting/c should be operated together with a videoconference or voice conference system. Staff can write comments or mark important items in the shared document so that clearer discussions can be conducted even among staff at remote locations. When using the system together with a smartphone, a user should wear a headset so that he/she can attend a meeting by listening to the voices of meeting attendees.

3.3 Purposes and Usage Scenarios for ConforMeeting/e

Next, we will describe ConforMeeting/e, a board meeting solution system. When holding a regular meeting, a meeting organizer is expected to prepare the meeting and run the proceedings. ConforMeeting/e has been developed to support such a meeting organizer in running an efficient meeting and in creating an environment in which attendees can concentrate on the

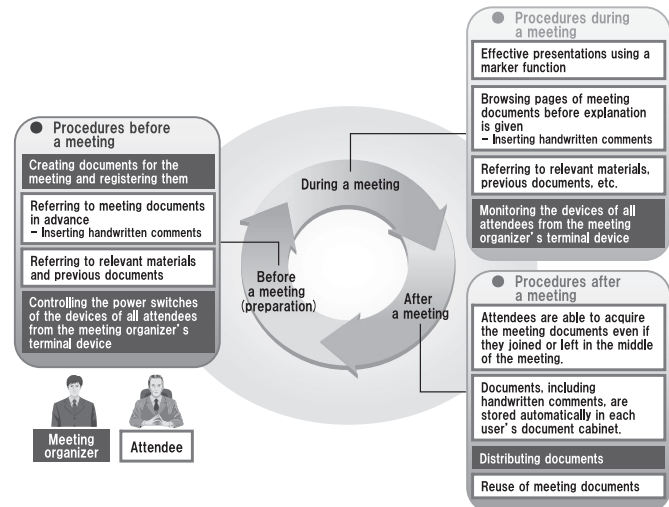


Fig. 2 Conducting a meeting with ConforMeeting/e.

discussion in the meeting. In order to achieve these results, dedicated tools for meeting organizers are provided. These tools support meeting organizers in simplifying tasks such as preparing, monitoring and running the meeting, as well as distributing materials after the meeting.

A meeting conducted with ConforMeeting/e is shown in Fig. 2.

4. Innovative Usage Scenarios for the ConforMeeting Series Compatible with Smart Devices

ConforMeeting/c achieved compatibility with Android terminals in 2011 and ConforMeeting/e achieved compatibility with the iPad in 2012. These compatibilities with smart devices provide users with opportunities to use the ConforMeeting series in the following scenarios.

- (1) Users can bring terminal devices with them more often outside the office or even on business trips.
- (2) User-friendly UI and intuitive usability allow users to carry out real-time document sharing and conduct remote meetings without any special training in how to operate the system.
- (3) Users can work efficiently, making the best use of their spare time.

Details of actual usage examples are introduced below.

[Usage example 1 (with ConforMeeting/c)]

Using it as a secure tool to bring information to and from the office

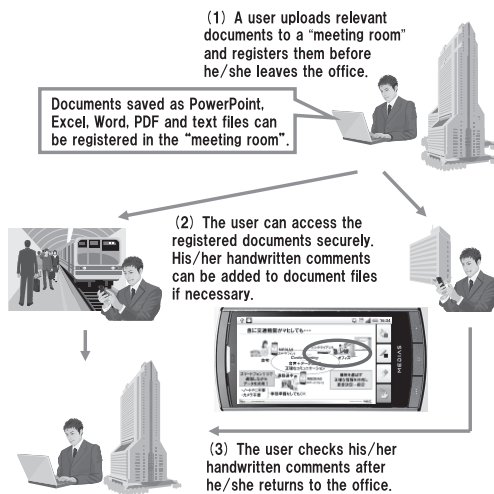


Fig. 3 Using it as a tool to securely bring information to and from the office.

ConforMeeting/c allows users to bring information to and from the office securely (Fig. 3).

Let us explain how to operate ConforMeeting/c with a detailed example. First a user creates a "meeting room" on a Windows PC located in the office. The user registers relevant documents in the "meeting room" and then stores the "meeting room" so that these documents can be browsed from outside the office. The user brings his/her Android terminal with him/her out of the office and accesses the system inside the office via DMZ (demilitarized zone) or VPN (virtual private network) so that he/she can access the "meeting room" on the Windows PC located in the office to attend a meeting. Once a user enters the "meeting," he/she is allowed to access the documents stored in advance. This means that the labor of carrying paper materials around will be eliminated and users will be free from the anxiety of losing them. This can be a secure tool to bring information to and from the office. Moreover, it can be used as a tool for other purposes, such as storing a snapshot taken by an Android device in the "meeting room" or bringing meeting information back to the office securely, because all information, including handwritten notes, are directly input to the document files stored in the "meeting room."

[Usage example 2 (with ConforMeeting/c)]

Using it as a tool to share documents or conduct a presentation in a seminar, training course, etc.

Making the best use of user-friendly UI and intuitive usability, ConforMeeting/c can be used as a tool to share documents and conduct a presentation in a seminar, training course,

etc. A lecturer can use a marker function to emphasize desired points. Lecture attendees can write their notes in the document displayed on their devices (Fig. 4). Moreover, files created with different applications, such as PowerPoint, Excel, Word and PDF, can be operated on without switching to each application, so that users can operate ConforMeeting/c without confusion from the first time.

[Usage example 3 (with ConforMeeting/e)]

Using it to access and browse information at the moment you are inspired, to use your spare time more effectively

Browsing information and making decisions are major activities that business managers and enterprise owners have to do every day, but PCs are mostly used for creating documents. ConforMeeting/e utilizes the superior characteristics of smart devices, which are suitable for browsing information, so that business managers and enterprise owners can access necessary information in a timely manner. They can access documents to be distributed at board meetings or other important meetings whenever they feel like it, during their spare time, from anywhere, as long as they carry a smart device with them. They can browse such data from home. This may result in an even safer way to browse information because they do not need to carry around paper documents (Fig. 5).

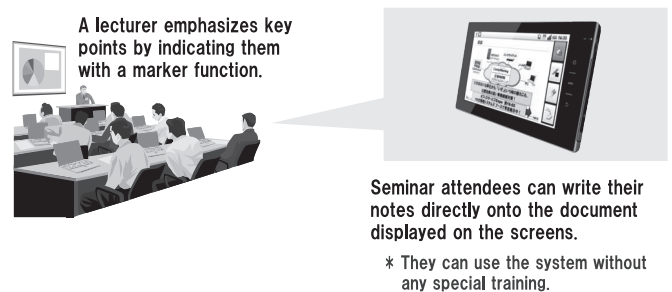


Fig. 4 Usage in training courses, seminars, etc.

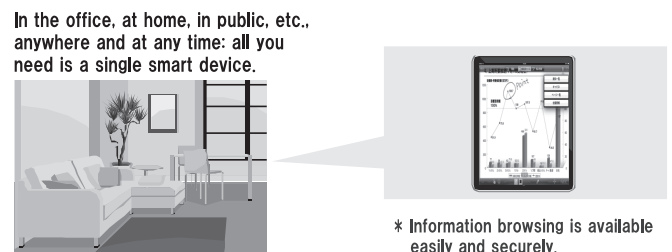


Fig. 5 Information browsing is available easily and securely during your spare time.

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5. Conclusion

The dissemination of smart devices has built an environment in which one can access a variety of information anytime, anywhere and quickly. By incorporating the advantages of smart devices, the ConforMeeting series has evolved into a tool that allows users to conduct real-time communications among users and experience an information-sharing environment without limits of place and time, much more convenient than before.

In the future, the ConforMeeting series will be advanced to become an even more attractive product by developing it to be compatible with Windows 8, as well as to achieve improved handwriting recognition.

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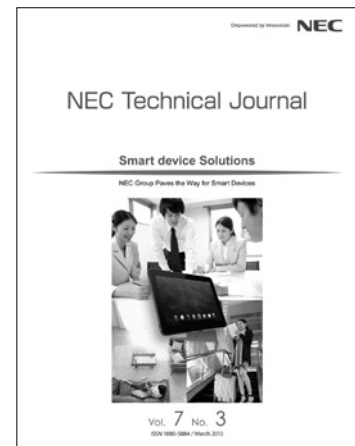
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