

“Contents Director,” Content Distribution Service for Smart Devices

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Abstract

Increased network speeds and the wide dissemination of smart devices have brought about significant expansion both in business reforms and in new service provisions using digital content. NEC developed the “Contents Director,” a content distribution service for smart devices in 2012, and it is currently proposing a variety of usage scenarios for the service.

Featuring easy-to-use interfaces and flexible distribution management functions, the Contents Director has already been adopted by various enterprises, in the form of either cloud-based or on-premises services.

This paper gives an outline of the Contents Director and discusses case studies of its introduction.

Keywords

smart device, tablet, mobile, content, digital signage, work style reform
sales capability enhancement, guest terminal, CS improvement

1. Introduction

Information contents have previously been “circulated” in the form of paper documents, however, the increased speed of networks and wide dissemination of smart devices have been accelerating the need for “delivery, distribution and management” of those contents in the form of digital data exclusively using smart devices. Detailed and diversified content distribution management that has not been possible via e-mail and web browsing is now available and capable of creating new content usage scenarios. These will offer the possibility of new work styles for enterprises and new experiences and convenience for the general user.

This paper introduces the Contents Director, a content distribution service for implementing the above needs via smart devices.

2. Changes in Content Environments

2.1 Speeding up Mobile Communication and Evolution of Terminals

Communication carriers have started to provide mobile communication services called 4G, such as LTE and Wi-

MAX communications that are able to optimally achieve communication rates of over 100 Mbps.

Rapidly advancing concurrently with the above trend is the dissemination of smart devices. The number of shipments of tablet terminals in Japan is expected to grow to 8 million units by 2016. ¹⁾

The wide and diverse product lines from general-purpose terminals usable personally to the application-specific terminals for use as E-books and for business purposes allow users to utilize the terminals more effectively by selecting those that meet their individual needs.

2.2 Diversification of Content Usage Scenarios

In enterprises, situations for which information that used to be printed and circulated as a large amount of paper materials including support materials for meetings, work manuals and presentation materials etc. are now often handled in the form of digital data distributed and displayed on terminals.

In the field of personal use, digital data is frequently downloaded to purchase E-books and to display local events information, sales information, etc. on personal terminals at anytime and anywhere.

The expansion and popularization of diverse usage scenarios for digital contents is not merely a substitution of the paper medium, but is also causing reforms of enterprise work styles and consumer lifestyles.

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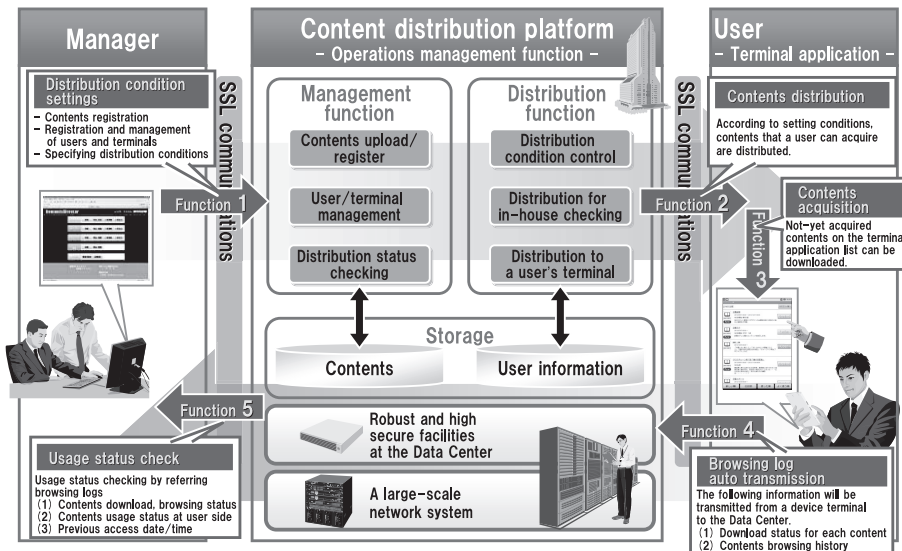


Fig. 1 Overall image of Contents Director.

3. Content Distribution Solutions

At NEC OMCS and Carrier and Media Solutions Operations Unit, we have been providing solutions related to content distribution to a large number of enterprises including telecommunications carriers as well as media enterprises such as broadcasting and newspaper companies. We announced the “PanelDirector” series of digital signage products in 2009 and also we started the contents distribution services and BPO service^{*1} in 2011. The contents distribution services includes weather forecasts and news according to user requests and BPO service supports users to distribute, manage and operate their own contents.

Based on these achievements and our acquired expertise, we developed the “Contents Director” content distribution service for smart devices and began its provision in 2012.

Currently, we offer a total content distribution solution based on the existing content distribution service. The solution provides a wide range of operations from contents procurement and production to terminal and network operation supports in the form of One-Stop Service. This is highly appreciated by many corporate customers regardless of business type or scale.

4. Features of Contents Director

The basic concept of the Contents Director is a service capable of flexible distribution regardless of content or terminal type. This service has been developed by taking advantages of our content distribution technology cultivated through experience in digital signage, as well as in content management technology for media businesses and platform building technologies to support communication carriers. In addition, it also incorporates various ingenious features that allow users to utilize the service safely, securely and comfortably.

(1) Product concept in consideration of its usability

The Contents Director runs on Android or iOS. It is composed of a “terminal application” that displays the list of contents for downloading a desired content and the “operations management function” that manages contents, users and terminals (Fig. 1).

The operation manager of an enterprise can access the operations management screen via the web to register the contents to be distributed, set the distribution destinations and execute the distribution.

When the user launches the application on the terminal,

^{*1} BPO: Business Process Outsourcing, which refers to the outsourcing of parts of the business processing of an enterprise to an external business.



Fig. 2 Application display on a terminal.

the list of contents distributed to each user up to that moment is displayed, so the user can immediately download and browse/view the required contents.

To implement “a user interface and operability that is easy to use for anyone,” the screen uses large buttons so that operational mistakes can be avoided even by finger touch operations (Fig. 2).

Considerations for facilitating discoveries of contents are also taken by means of the hierarchical display of contents according to categories and the use of the unread/read tabs. Previously downloaded contents are designed to be usable offline so that they can be utilized anywhere.

(2) An operations management function enabling effective distribution

The most appealing feature of the Contents Director is its flexibility in supporting distribution management. Flexible settings, e.g., “to distribute the product catalogue to sales engineers in the Kansai District, except for the department managers,” are made possible by setting and/or conditions based on attributed information from each terminal (Fig. 3). Any type of attributed data may be set including the department name, position, region, age and sex.

The possibility of setting the content distribution schedule as desired is another feature of the Contents Director. Content such as information regarding a limited time campaign can be distributed in a timely manner by specifying the distribution start and finish dates. The

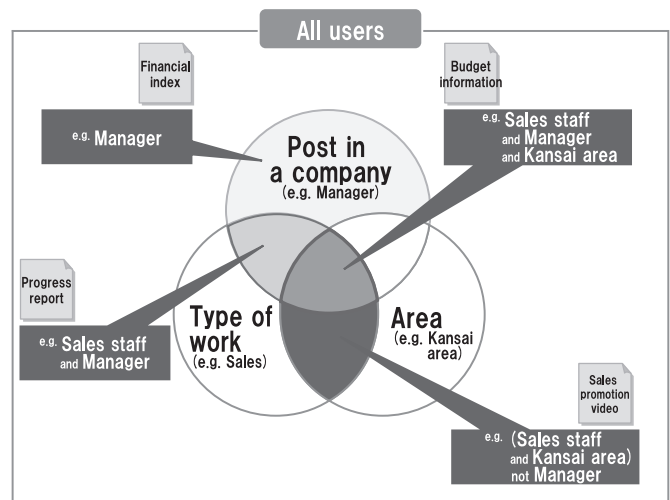


Fig. 3 Concept of distribution setting.

content is automatically removed from the list after a specified finish date so that the risk of continuing to use an obsolete content may be avoided.

A browsing history acquisition function is also provided in order to help identify browsing information on when the content was browsed and by whom. This enables implementation of an effective PDCA cycle in the use of contents.

(3) Reliability notwithstanding large-scale distribution and large-scale utilization

The Contents Director can be provided either as a cloud-based service or an on-premises service (PKG + SI) according to the needs of each user. With the cloud-based service, we offer a robust and secure platform, 24-hour, and 365-day operation surveillance and operational support via a help desk service.

When a user requests linkage with a backbone system, we can take individual SI measures or customize by linkages with SEs that have expertise across a wide range of business types as well as by utilizing SI technologies.

(4) Content distribution solution

One of the features of our content distribution solution is the possibility of providing operations from procurement and distribution of contents to supporting customer operations as a total service.

From the weather forecasts, news and entertainment content to information content in magazines, etc., we can procure any required contents and provide desired combinations.

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When a customer needs a combination of smart device and wireless carrier, we can provide the mobile cloud (MVNO) service.

We can also provide the BPO service, with which we replace the customer in performing the operations that were previously performed by them, such as in content and terminal management and for responding to inquiries from user departments.

Provision of these linked services makes immediate use of the service without the need for customers to conclude contracts with various carriers or to build a special system.

5. Case Studies of Introductions of the Contents Director

The Contents Director can be introduced by a large variety of customers regardless of the business type or of the scale of an enterprise.

(1) Utilization by enterprises of sales capability enhancements

Itochu Enex Co., Ltd. who are engaged in a wide range of energy-related businesses have adopted the Life-Touch tablet terminals, the Contents Director and a mobile cloud service (MVNO) with the aim of enhancing their sales capability. Their headquarters can select product catalogues and product demonstration movies according to the department, region or handled products of sales engineers and distribute them efficiently to the tablet terminals of sales engineers. The sales engineers can practice timely sales promotions and CS (customer satisfaction) activities without the need to always carry such materials, because they can acquire any required material whenever it is needed, even at the remote locations that they visit.

With regard to the sales tools management that used to depend on printing and the circulation of paper materials, the manager can distribute digital materials anytime to anyone by uploading digital data and setting distribution patterns. The possibility of identifying the browsing history of individually distributed content can serve to review and extend sales tool usage as well as to save paper materials and a large amount of time spent on op-

erations.

(2) Use in improving services for visiting clients

Showa Shell Sekiyu K.K. joins the “EV Service Station Network,” a network of EV recharging stations, in providing an original recharge pilot service. The Life-Touch tablet terminals are prepared in Showa Shell service stations where a recharging service is available, and contents that include E-magazines and short animation movies are distributed periodically for the entertainment of clients waiting for the recharging of their vehicle batteries.

We have supported this service, not only by preparing the terminals, but also by procuring, distributing and administering content in order to improve the CS of clients and expand added value at the stations without increasing the labor of both the headquarters and service station staffs.^{*2}

6. Future Perspective

Dissemination of various smart devices is expected to increase the range of usage scenarios from personal use to more comprehensive, expert utilizations that are specific to business purposes.

Aiming at a timely distribution of contents to the tablet terminals carried by NEC’s sales engineers for promoting their product/service sales activities, the Contents Director was linked with the in-house sales promotion information portal system in January 2013.

We intend to continue the function enhancement of the Contents Director in various fields including the provision of compatibility with a wider range of terminals and OSs. We will also promote Solution enhancement as an information portal for accessing various contents, expansion of provided content types, enhancement of the contents search functions and the addition of a remote terminal management function for reducing the labor input of field staff.

7. Conclusion

In the above, we introduced an outline of the Contents Director, which is a contents distribution solution. The accel-

^{*2}In the case of Showa Shell Sekiyu K.K. the project was introduced as one of the projects adopted by the Ministry of Economy, Trade and Industry. The project was “FY2011 Petroleum Products Sales Business Structure Improvement Expenses Subsidies - A Next-Generation Fueling Station Implementation Support Project (one of those associated with the demonstration experiments of next-generation petroleum product sale business)” (in Japanese). Distribution using the Contents Director was conducted over the limited period from January to the end of June 2012.

ating dissemination of smart devices is expected to expand the available variety of contents usage scenarios.

At NEC, we will not limit ourselves exclusively to being the system and terminal provider but will also be the creator to provide innovative experiences to users through new contents and smart devices in order to support the creation of new contact points between enterprises and users, as well as supporting the reform of enterprise work styles.

In the future, too, we are determined to serve our customers' businesses by providing "new values" that are centered on content.

*LTE is a registered trademark of European Telecommunications Standards Institute(ETSI).

*WiMAX is a trademark or registered trademark of WiMAX Forum.

*Android is a trademark or registered trademark of Google Inc.

*iOS is a trademark or registered trademark of Cisco Systems, Inc. in the U.S. and other countries.

Reference

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