Design and Practice of a Converged Media Command and Dispatch Platform (Postprint)

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Abstract

As new media becomes increasingly prevalent, traditional media has been significantly influenced. Concurrently, with societal progress, the public' s demand for cultural and spiritual fulfillment has gradually increased, and traditional media can no longer meet these growing needs. In this context, new media has gained widespread application and development, and the integration of traditional and new media has gradually become an overarching trend. This paper investigates the design of converged media command and dispatch platforms, analyzing their components, design requirements, core processes, and related issues, thereby exploring their role and significance in practical application. This study contributes to the theoretical framework of converged media construction and provides a reference for the development of converged media command and dispatch platforms.

Full Text

Abstract

As new media becomes increasingly pervasive, traditional media has been profoundly impacted. Meanwhile, with societal progress, the public' s demand for spiritual and cultural content has gradually intensified, and traditional media can no longer satisfy these growing needs. In this context, new media has gained widespread application and development, and the integration of traditional and new media has gradually become an inevitable trend. This paper examines the design of integrated media command and dispatch platforms, analyzing their components, design requirements, and core workflows, thereby identifying their practical applications and significance. This study enriches the theoretical framework for integrated media construction and provides valuable references for building such platforms.

Keywords: New Media; Command and Dispatch; Process; Control and Management; Integrated Media Construction

Introduction

In the 21st century, computer technology in China has developed at an astonishing pace. The utilization of large-screen systems for data display has become a societal trend and an indispensable part of information presentation. As a novel media form arising from the convergence of multiple media types, integrated media exhibits an exceptionally strong demand for data visualization. As an integrated medium, data information has already merged with every operational stage, including story leads, editorial selection, review, and dissemination. Large-screen display of integrated data can act as an invisible hand driving the development of media convergence, resolving issues of poor dissemination effectiveness and high costs. This approach also enhances operational efficiency and accelerates the construction of information platforms. In summary, large-screen display of integrated data represents a more effective presentation method with diversified development potential, aligning with the resource integration characteristics of integrated media and serving as an essential choice for meeting customer needs through integrated media.[2]

1. Core Design Requirements

1.1 Large-Screen Display of Integrated Data

With the overarching trend of economic globalization, technological development has accelerated rapidly, and the degree of social informatization has intensified dramatically. Data recording methods have gradually modernized, and traditional paper-based recording can no longer meet people' s living and working needs. Various new recording methods such as audio, video, charts, and data documents have permeated every aspect of life. The vast amount of complex and ever-changing information in society makes it difficult for people to distinguish key insights, leading to a rapidly growing public demand for information visualization. Whether for monitoring or guidance purposes, both command and dispatch centers and monitoring centers have an increasing need for large-screen display of integrated data. Through large-screen data display, command personnel can quickly grasp situation developments and make timely decisions.[2]

1.2 Full Business Process Control

The term "process" appears everywhere in daily life; it is objectively present. Enterprises have production processes, sales processes, media have collection and dissemination processes, and various management tasks all involve processes. Process is the key to sustainable operations across all industries. No business activity can occur in isolation; each involves a series of stages, making process management extremely necessary. Business process control and management involve the standardized integration of various operations to simplify work

and improve performance. For command and dispatch centers, implementing full business process control can effectively integrate business resources, deploy events efficiently, issue commands promptly, coordinate relationships between personnel and facilities, and ensure effective task completion.

1.3 Open Architecture

Open architecture originated in the 1980s, with the goal of accommodating large-scale computer technology applications and networked development. This concept plays a significant role in computer practice. For computers with open architectures, even when models and types differ, their application systems can still be ported, and resources between network nodes can be shared. Computer application systems can also be tailored to enable interchange operation between high-end and low-end machines. Meanwhile, the required software environment is no longer singular but can be obtained from multiple sources. For integrated media formed by converging various media types, the portability and interoperability characteristics of open architecture can fully resolve differential issues encountered during integration.

1.4 Real-Time Video Dispatch

Video dispatch is an indispensable component in building integrated media command and dispatch platforms, significantly influencing their construction and operation. Implementing real-time video dispatch requires the use of video and other technical means to uniformly manage various field work teams. Relevant management personnel need not conduct on-site inspections in person; instead, they can remain at the monitoring center to centrally process first-hand information reported by teams and send processing instructions to work groups for guidance in real time. This approach substantially reduces labor costs and enhances supervision effectiveness. Through video dispatch, event progress can be tracked promptly, with clear visibility and audibility of actual situations. It also enables timely response to emergencies, facilitating decision-making and command.[3]

2. System Architecture and Workflow

2.1 Command Facilities and Mechanisms

2.1.1 Command Facilities and Personnel The successful construction of a command and dispatch center requires relevant hardware facilities and systems. These facilities enable the command center to obtain information promptly, issue instructions quickly and conveniently, and handle emergencies efficiently.

The personnel include professional command teams and temporary emergency staff responsible for command and coordination tasks. In selecting personnel, their professional qualifications should be emphasized—the higher the qualifications, the greater the efficiency and quality of command.

2.1.3 Command Mechanisms The central system should achieve a state of control balance with various subsystems. In addition to systematic management and control of the current state, it should also enable analysis of past events and prediction of future possibilities. The system information mining engine must be improved to collect and process various information resources existing in society within a short timeframe, provided this does not violate relevant policies, regulations, and information collection requirements.

2.2 Information Management Systems

2.2.2 Information Monitoring System Integrating system services, field control, and timely reporting into a unified whole, this system monitors events in real time and assesses situations promptly. It masters the specific location distribution of deployed equipment, ensures effective control of monitoring devices, tracks situation developments and data changes in a timely manner, prevents emergency incidents, and improves the alarm system.

2.2.3 Information Processing System Computer-based and supported by system software and hardware, databases, and applications, this system stores, processes, and transmits data to predict and address potential event requirements.

2.2.4 Information Execution System Through machine operation, this system performs programmatic operations on computer software and hardware information resources, optimizes received plans, transmits commands to subordinate levels, and directs execution.

2.3 News Reporting Execution

2.3.1 Specialized Reporting Organizations Establish specialized organizations such as television stations, newspaper offices, and radio stations for real-time related reporting.

2.3.2 Strict Reporting Process First, describe the key reporting points in concise and clear language to attract audiences and provide summarization. Second, provide detailed introductions of the reporting subjects, including time, location, cause, process, outcome, and personnel involved. After presenting the facts, add supplementary content such as personal perspectives on such events, similar incidents, or famous quotes.

2.3.3 Management Mechanisms and Systems Reporting must maintain a positive and upward-oriented public opinion guidance role while vigorously promoting the Party' s policies and guidelines. Management departments should implement a responsibility system for information collection and event reporting, ensuring clear task assignments and improving personnel engagement. Ad-

ditionally, personnel management systems must be improved to enhance staff quality.[5]

2.4 Release and Summary

Summarize the basic circumstances of the event; summarize work experience and relevant lessons learned; provide relevant contingency plans and response measures for similar future incidents.

2.5 Electronic Annotation

Provide comments and annotations on news reports, specifying opinions and suggestions.

2.6 Message Push

Utilize various computer programs and mobile apps for timely push of message data.

3. Application Scenarios

3.1 Daily News Reporting

Faced with information overload in society, making daily news reporting more meaningful and attention-grabbing is an extremely challenging task. Compared with other types of news, daily news is more closely connected to the real lives of the people. Therefore, for such news, emphasis should be placed on excavating the profound essence beneath ordinary surfaces—thinking quietly, observing carefully, discovering the extraordinary within the mundane, neglecting no news story, and conscientiously summarizing and learning from experience.

3.2 Major News Reporting

Major news reporting primarily covers national affairs and Party work, specifically presenting significant domestic and international events and activities. Its broadcast carries special meaning and positive guidance functions; therefore, ensuring correctness and positivity is essential for such news reporting. Simultaneously, attention must be paid to the timeliness of such news, whether the content is rich, whether viewpoints are clear, and whether it resonates with the people.

3.3 Breaking News Reporting

Breaking news can generally be divided into ordinary emergencies and major emergencies, primarily distinguished by the nature of the news event and its impact on society. Breaking news reporting refers to massively influential events occurring without warning in a short period, including social events caused by human factors and natural disasters caused by force majeure. Such events

have significant social impact, and their sudden characteristics more easily attract public attention, giving such news higher dissemination value. Breaking news reporting places greater emphasis on real-time capability than other news types, with content focusing more on "what is happening now," which imposes higher requirements on news dissemination. The integrated media approach enables various media types to simultaneously report on emergencies, ensuring the transmission of on-site information volume and achieving the goal of real-time reporting.

3.4 Full Business Process Display

(1) Select news topics for submission and obtain superior approval; (2) The command center determines whether to assign journalists for interviews based on the news nature, social impact, scale, etc., and decides on interview timing, required equipment, and news reporting methods; (3) After confirming that a news report requires journalists, fill out personnel application forms, assign interview tasks to subordinates, identify interview personnel, and arrange specific interview equipment; (4) Journalists go onsite to conduct real-time reporting or recording using devices such as voice recorders and cameras; (5) Organize news materials, write drafts, and review them; (6) Perform voice-over and synthesis for approved drafts; (7) Relevant leaders conduct a final review of the completed pieces; (8) Distribute to various platforms for broadcast.

4. Permission Management

4.1 System Permissions

The platform system and login page are controlled through menus. Menus are divided into primary, secondary, and other levels, with personnel of different responsibilities assigned different levels and corresponding access permissions.

4.2 Operation Permissions

The page includes options such as view, command, add, delete, review, modify, and confirm. Different personnel can operate on projects within their functional scope with backend authorization. During operation, the system verifies personnel identity; if the person possesses the required permission, they can proceed to the next step, otherwise they exit the page.[6]

4.3 Data Viewing Permissions

Management personnel responsible for different domains have varying levels of platform data access—the more responsibilities, the greater the permissions, and the more important data they can view, and vice versa. Simultaneously, personnel with different permissions can only view the domains for which they are responsible and cannot view beyond their level.

5. Application Effects

5.1 Enhanced Communication Advantages

Through the integration of various media such as radio, newspapers, and television, integrated media has successfully achieved convergence in data, dissemination, resources, and benefits. It realizes new concepts and models of modern information dissemination, breaking traditional single-mode communication and blurring boundaries between different media types. The emergence of integrated media aligns with the needs of contemporary development and represents an inevitable product of the information society. It better fits people' s living needs, and the new media model makes dissemination more efficient and rapid—mobile clients, electronic reading, mobile broadcasting, and other forms have made life increasingly convenient, with notable improvements in audience ratings and listenership.[7]

5.2 Integrated Marketing and Revenue Growth

To meet the people' s material and spiritual civilization needs, a new three-dimensional integrated marketing model has been formed through continuous improvement. Compared with previous single-mode approaches, it offers greater flexibility, multi-angle perspectives, and other advantages. This model enables product diversification and price pluralism, satisfying the needs of customers at all levels, with greater flexibility in sales channels and promotional models. The use of integrated media as an emerging approach can effectively meet marketing needs, increase advertising intensity, attract more consumer attention, broaden audience reach, and promote the three-dimensional development of marketing models. Simultaneously, the three-dimensional marketing model integrates brands, enhances brand awareness and promotion, and improves public recognition of corporate brands. This attracts more new customers, enhances market competitiveness, and significantly strengthens profitability.[8]

5.3 Labor Cost Savings

Integrated media represents convergence not only in media carriers but also in human resources, content, and other resources. It consolidates media human resources that previously operated independently, transforming them into collective service provision. By breaking down personnel boundaries and forming new editorial departments, it enables simultaneous use of multiple devices during information collection tasks to supply drafts to multiple parties concurrently. This ensures the credibility of various media drafts while significantly reducing labor costs, improving collection personnel efficiency, enabling capability development, and saving time. It transforms single media operations into collective multi-media operations, achieving comprehensive upgrades in functionality and value. For news or advertisement broadcasting, it avoids secondary editing, saves labor and material costs, and ensures the timeliness of various media reports.[9]

5.4 Equipment Resource Optimization

The foundation of integrated media development is convergence. First, data resources such as text, images, and video are aggregated and collected, then processed and organized according to different needs to form a hierarchical database, establishing both a database system and a data service platform. Second, equipment resources such as cameras, computers, and mobile phones are combined to form a new resource repository. Supported by equipment convergence, this achieves mutual integration of technical resources. Such integration delivers higher economic benefits, saves substantial equipment procurement costs, and effectively reduces expenses.

Conclusion

The rapid development of integrated media enables us to more intuitively recognize the importance of media to information. Media is the form of information dissemination, determining whether information 传播 is accurate and clear and whether it permeates people' s lives. In this era of networking and datafication, media convergence has become an inevitable trend, making the construction and development of command centers increasingly necessary. How to build command centers and how to leverage the role of integrated media in this era are increasingly worth considering. In this design and practice, the integrated media command platform has demonstrated its unique functions and roles, showing us its positive impact on modern life.

Note: Figure translations are in progress. See original paper for figures.