Design and Exploration of City- and County-Level Converged Media Center Construction: Post-print

Authors: Liu Jinyu

Date: 2023-10-08T00:00:00+00:00

Abstract

Propaganda work constitutes an important task for the Party and the government. At the National Propaganda and Ideological Work Conference convened in August 2018, General Secretary Xi Jinping emphasized the need to solidly advance the construction of county-level media convergence centers to better guide and serve the masses. The development of county-level media convergence centers has entered an unprecedented period of opportunity. In recent years, substantial progress has been achieved in the construction of these centers, with orderly advancement from the county level to the municipal level and further to the provincial level, each demonstrating successful cases. The author contends that in promoting this initiative, planning and construction must adhere to the principles of being "frugal, advanced, and practical," while strengthening both the depth and breadth of "convergence," thereby transforming media convergence centers into vital platforms for grassroots propaganda work and spiritual civilization construction.

Full Text

Design and Exploration of City/County-Level Converged Media Center Construction

Author: Liu Jinyu (Xinhua News Agency Shanxi Branch, Taiyuan, Shanxi 030000)

Abstract: Publicity work constitutes a vital task for the Party and government. At the National Conference on Propaganda and Ideological Work convened in August 2018, General Secretary Xi Jinping emphasized the need to solidly advance the construction of county-level converged media centers to better guide and serve the masses. This has ushered in an unprecedented period of opportunity for county-level converged media center development. In recent years,

converged media center construction has achieved considerable progress, with successful cases emerging at the county, municipal, and even provincial levels in an orderly manner. The author argues that this undertaking should be planned and constructed under the principle of "frugality, advancement, and practicality," while strengthening the depth and breadth of "convergence" to transform converged media centers into crucial platforms for grassroots publicity work and spiritual civilization construction.

Keywords: County-level Converged Media; Converged Media Center; Media Convergence; Converged Media Construction
CLC Number: G206
Document Code: A
Article ID: 1671-0134(2021)12-062-03
DOI: 10.19483/j.cnki.11-4653/n.2021.12.018
Citation Format: Liu Jinyu. Design and Exploration of City/County-Level Converged Media Center Construction[J]. China Media Technology, 2021(12): 62-64.

1.1 Design Principles

Scalability and Maintainability. Platform design should follow principles of business layering and data flattening to achieve resource aggregation, data integration, content consolidation, user unification, platform standardization, and unified access. This approach ensures smooth scalability of the entire system while maintaining extensibility and maintainability. Interface design must also account for future business and data growth, as well as integration of additional resources, to maximize expandability.

Advancement and Practicality. To ensure technological sophistication and optimal user experience, advanced information and artificial intelligence technologies should be utilized throughout the entire workflow. Key technology selections should anticipate business development needs for the next three to five years, fully highlighting the importance of technological advancement for project success.

Openness and Compatibility. Both business operations and data must maintain openness, leveraging mobile internet technology to enable internal and external business and data sharing. Compatibility should be maximized in terms of system integration and technical standards.

Reliability and Security. The platform must be stable and reliable, ensuring 24/7 uninterrupted operation, with storage and backup mechanisms for critical business data.

1.2 Overall Design

The overall technical architecture of the converged media center platform can be summarized as "four layers and two wings." The four layers are the user interaction layer, business layer, data layer, and infrastructure layer; the two wings are the security and operation service system and the standard specification system. Considering future growth in business data, platform performance and stability must be addressed in the design phase, with database solutions such as read-write separation, vertical partitioning, and horizontal sharding. The platform maintains separation between access and business processing to ensure high throughput and smooth scalability while meeting current functional requirements.

The overall platform technical architecture is shown in Figure 1 [Figure 1: see original paper].

(1) User Interaction Layer. Provides both mobile and PC access methods. The mobile App should conform to user aesthetic habits and deliver excellent user experience. PC pages should feature clear prioritization, fast loading speeds, and concise, intuitive buttons.

(2) Business Layer. The content management component includes several major systems: media asset management platform, community communication system, data analysis system, AI service tool system, mobile collaborative command system, converged media news aggregation system, content editing and distribution linkage system, and media matrix publishing system. By accessing all clues, materials, and news content in the media asset library, collaborative production functions break down business barriers across channels and platforms, enabling multi-modal, multi-tool collaborative production and providing users with abundant resources. Based on the content management component, this reconstructs an all-media editing model integrating images, text, audio, and video, achieving "one-time collection, multiple generation, diversified dissemination, and comprehensive coverage" of news information. The content collection component supports not only professional journalist UGC and PGC content collection, but also content integration from traditional media (websites, newspapers) and new media (WeChat, Weibo). Media assets are categorized and managed by images, video, and audio, supporting cloud storage, filtering, viewing, retrieval, editing, tagging, and AI recognition functions for convenient content production.

(3) Data Layer. Content management data resources include relational databases, unified file storage, and distributed file storage. Relational databases must support both MySQL and SQL Server (with priority given to compatibility with existing SQL Server databases). The platform backend enables direct access to data in the community communication system for one-stop operations. The technical platform employs popular and mature frameworks such as Spring Boot, MyBatis, and HTML5 for front-end and back-end application development, supporting both mobile and PC terminals.

Mature tool components including search engines, workflow engines, template engines, and publishing engines are introduced to shorten development cycles and improve quality.

(4) Infrastructure Layer. Terminal forms include mobile and PC. By decomposing monolithic applications into multiple manageable branches or services while maintaining functionality, each service has a clearly defined boundary using RPC- or message-driven APIs. This forms a microservice layer supporting front-end/back-end separation, cross-terminal, and cross-channel integrated operations.

(5) Standard Specifications. Include microservice interface standards, content product description standards, production process standards, and data exchange standards.

(6) Security and Operation Service System. Includes system security assurance and operation service systems.

1.3 Application Architecture Design

By building a professional new media dissemination matrix, the platform achieves synchronized news release and creates a closed-loop converged media solution, providing users with real-time news, special topics, live streaming, tip submission, voting, and other functions that can be adjusted as needed. These functions optimize user experience, enrich on-site news elements, and improve news product quality.

The overall application architecture is shown in Figure 2 [Figure 2: see original paper].

The platform enables digitalization of the entire process from topic planning, scheduling and collection, editing and processing, distribution and contribution, to dissemination evaluation, achieving one-click distribution to multiple platforms and enhancing news dissemination power. Through video decoding and analysis, speech and image content is extracted from videos, and technologies such as speech recognition and image recognition are comprehensively applied to convert video content into text, avoiding simple repetitive labor and allowing users to focus on content creation itself, thereby greatly improving news timeliness.

Through mobile terminal upgrades and expansion, the platform enhances client capabilities for uploading audio/video, images, and live streaming, providing audiences with a comprehensive sensory experience and multi-perspective integrated news experience through multi-dimensional interactive methods including images, voice, video, text, and live streaming.

3. Summary

This paper elaborates on the design and implementation of city/county-level converged media center construction. In practice, most regional converged media center constructions are based on existing media resources, primarily following two integration models. One model uses radio and television stations as the foundation to integrate all municipal/county public media resources including websites, newspapers, and "two micro-ends" (WeChat, Weibo, and client apps). The other model uses newspaper networks as the foundation to integrate radio and television stations and other public media resources [2]. On this basis, a "1+N" construction model can be adopted, namely one core system plus N auxiliary systems. The core system is deployed locally to ensure normal operation during critical and special periods. The N auxiliary systems can be deployed locally or using public cloud services depending on the converged media center' s scale, manpower, material resources, and financial conditions, thereby enhancing user experience and work efficiency. Beyond building technical platforms and merging public media resources, government service functions can also be integrated to achieve multi-center convergence including converged media centers, e-government centers, and e-commerce centers, delivering excellent user experience that serves grassroots communities.

References: [1] Shandong TV Shandian News. The Key to County-Level Converged Media Center Construction Lies in "Convergence" [EB/OL]. Official Account of Shandong TV Shandian News Client, 2018-12-09. http://baijiahao.baidu.com/s?id=1619356764241022396&wfr=spider&for=pc
[2] Men Xiaofeng. The Key to County-Level Converged Media Center Construction Lies in "Convergence" [J]. China Cable TV, 2021(7): 701-703.

Author Profile: Liu Jinyu (1963-), male, from Yuci, Shanxi, senior engineer, research direction: news media convergence.
(Responsible Editor: Tu Dongmin)

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