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TNO report

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**Upcoming standards for CDN interconnect,
presentation at IP&TV World Forum, 24-3-2011**

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Key words	Content Delivery Networks, standards, interconnection, CDN Interconnection, ETSI, IETF
Summary	This presentation was given at IP&TV World Forum, London, 24 March 2011.

This presentation provides an overview of upcoming standards for the interconnection of Content Delivery Networks (CDN). The concept of CDN and CDN interconnection is explained by using the metafore of printing companies that may collaborate in the printing of newspapers. The presentation introduces relevant terminology, like the "Upstream CDN" and "Downstream CDN". It also highlights activities, technical approaches and time lines of the standardization activities in ETSI MCD and IETF.

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Upcoming Standards for CDN Interconnect

Dr. M. Oskar van Deventer





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Upcoming standards

- Intro: TNO and Dr. M. Oskar van Deventer
- Understanding CDN interconnection
- Standardization activities and plans
 - 2010-2012: ETSI MCD, CDN Interconnect Release 1
 - 2011-2012: IETF CDN-I, protocol for CDN Interconnect



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TNO: Innovation with ICT

TNO Information and Communication Technology (ICT) is a 350-employee not-for-profit Dutch research institute. Its mission is to bring innovation to small and large businesses. Expertise includes telecommunication and content delivery networks, network planning and performance analysis, application development, security, but also business modeling, usability and predicting the success of innovations. One of TNO's focus points is innovation in television and interactivity. TNO contributes actively to OMA BCAST, DVB and ETSI TISPAN standardization of interactive mobile TV, IMS-based IPTV and CDN.



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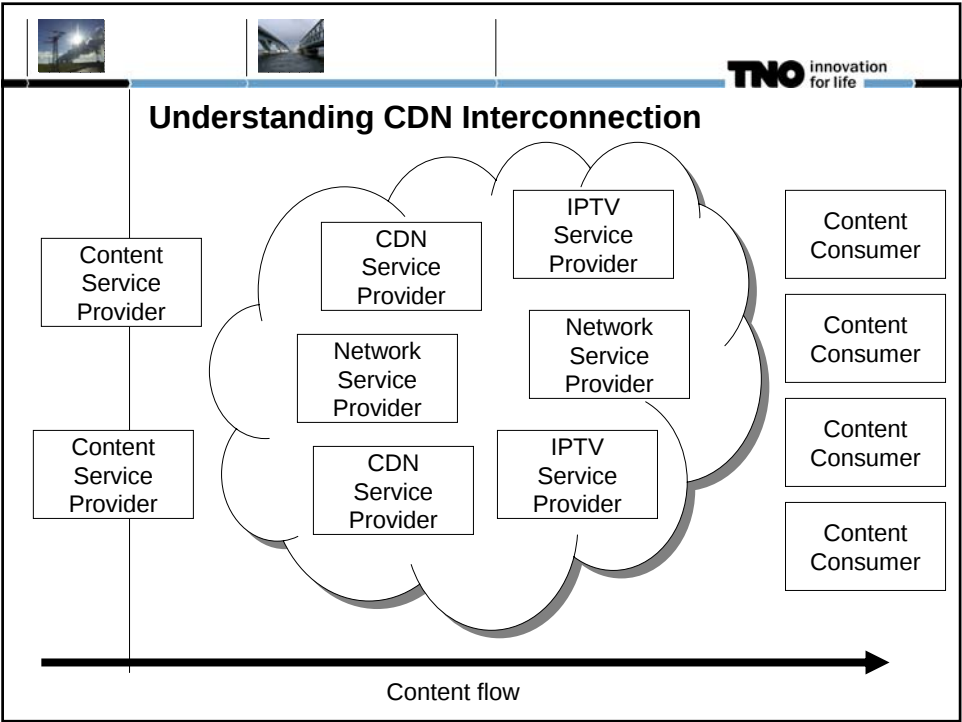
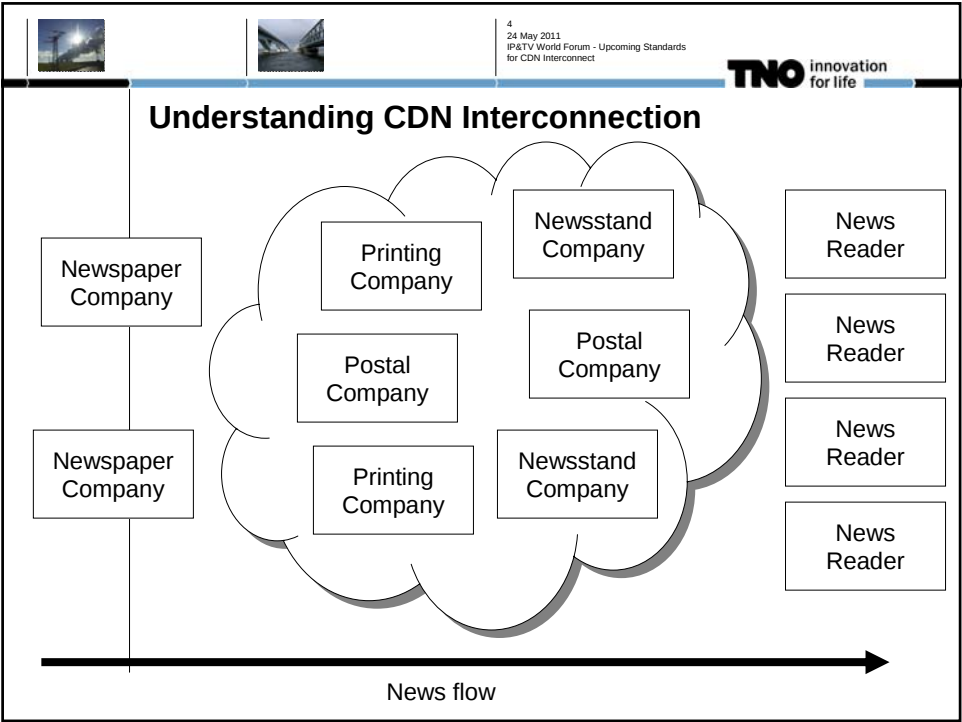
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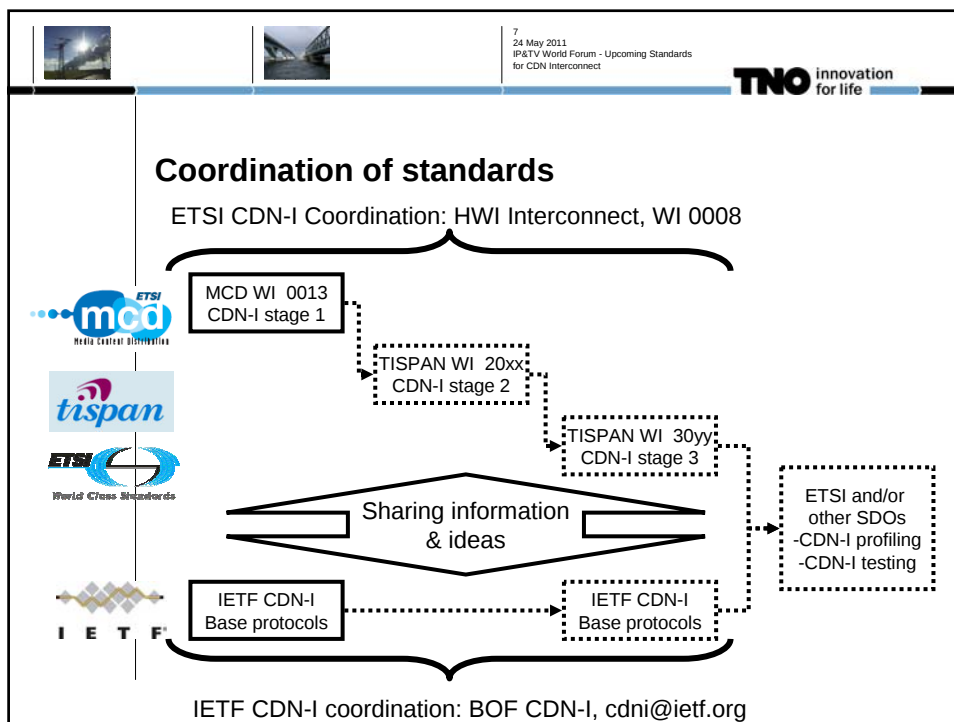
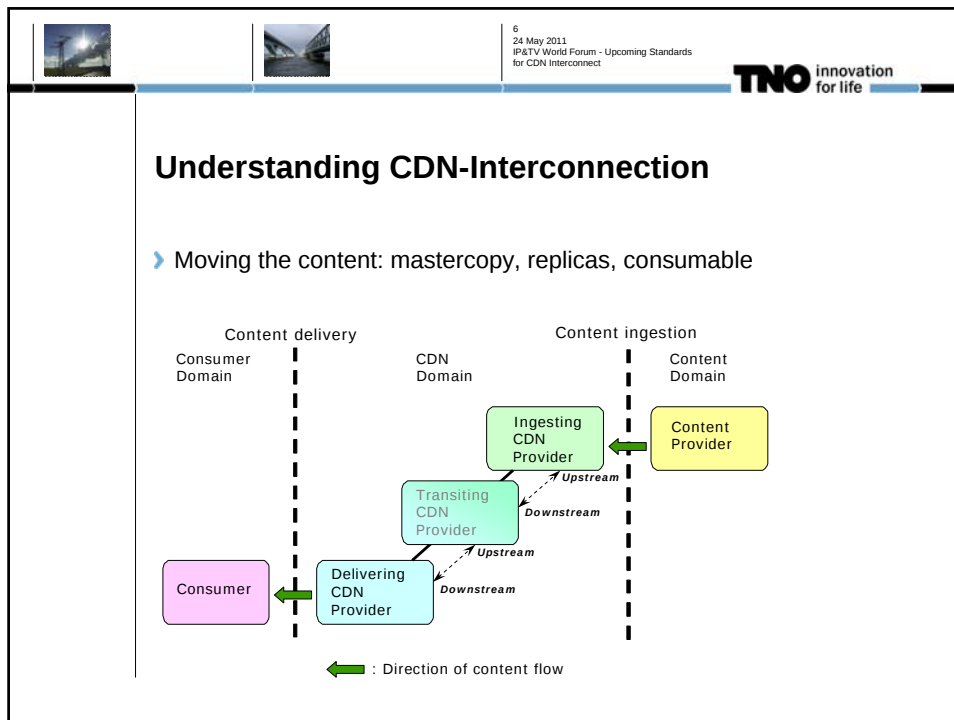
Dr. M. Oskar van Deventer ...

... is responsible for the IMS&IPTV and CDN-Interconnection project, together with KPN, in which new services are created that combine content with communication. In order to see vision turned into reality, he is actively contributing to ETSI standardization of IMS-based IPTV and CDN. He has been (co-)author of over 100 international publications, over 350 standardization contributions and several Dutch and international standards in the areas of voice-over-IP, IPTV and CDN. His creativity has led to over 40 patent applications and to the award-winning location-based mobile game "Triangler".



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Documents: ETSI

- › Draft TS 182 019: Content Delivery Network (CDN) architecture - Interconnection with TISPAN IPTV architectures
- › Draft TS 183 xxx: Content Delivery Network (CDN) protocols
- › Draft SR 080 003: Special Report on NGN Interconnection
- › Draft TR 102 688-9: MCD Framework - Part 9: Content Delivery Infrastructures
- › **Draft TS 102 990: CDN Interconnection, use cases and requirements**



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Documents: IETF

- › Draft-jenkins-cdni-problem-statement: Content Distribution Network Interconnection (CDNI) Problem Statement
- › Draft-lefaucheur-cdni-requirements: Content Distribution Network Interconnection (CDNI) Requirements
- › Draft-bertrand-cdni-experiments: Content Distribution Network Interconnection (CDNI) Experiments
- › Draft-bertrand-cdni-use-case: Use Cases for Content Distribution Network Interconnection
- › Draft-jenkins-cdni-names: Thoughts on Naming and Referencing of Data Objects within Content Distribution Network Interconnection (CDNI) solutions



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ETSI Requirements: Content Provider in control

- 1 Scope
- 2 References
- 3 Definitions and abbreviations
- 4 Overview of CDN interconnection services
 - 4.1 Functional roles and CDN Relationships
 - 4.2 CDN Interconnection services
- 5 Service requirements
- 6 Technical requirements

Annex A (informative): CDN Interconnection use cases



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IETF interface functionalities

- › Control interface: to initiate the interconnection across CDNs and bootstrap the other CDNI interfaces.
- › Request routing interface: to facilitate redirection of the request across CDNs.
- › Metadata interface: to exchange content metadata with inter-CDN scope across CDNs.
- › Logging interface: to report and log CDN-I events.
- › Acquisition interface: to exchange the actual content.



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Upcoming meetings

- › IETF: Prague, 28 March – 1 April
 - › CDN-I BOF: 31 March
- › ETSI
 - › TISPAN & MCD: Sophia Antipolis, 14-17 June
- › CDN World Summit
 - › London, 26-27 October 2011

THANK YOU