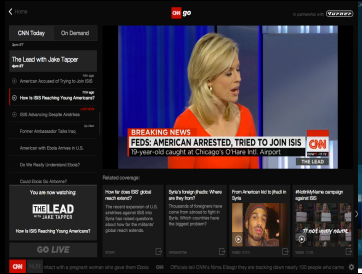# Keith Chandler

Vice President, Integration and Architecture, Video Platforms
and
Chief Architect, CNNgo
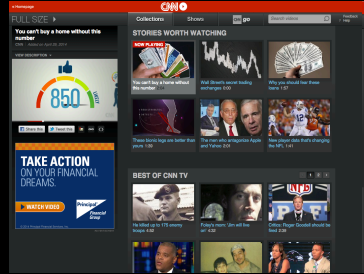
Turner Broadcasting System

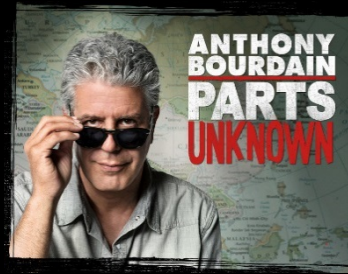# CNN Digital Video Product Portfolio

CNNgo / TVE

Authenticated TV

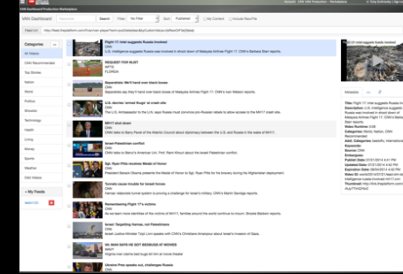**Currently on CNN US desktop web site and mobile apps**.

Video On-Demand

Including CNN US and International web and apps

Live Events

Planned & BN

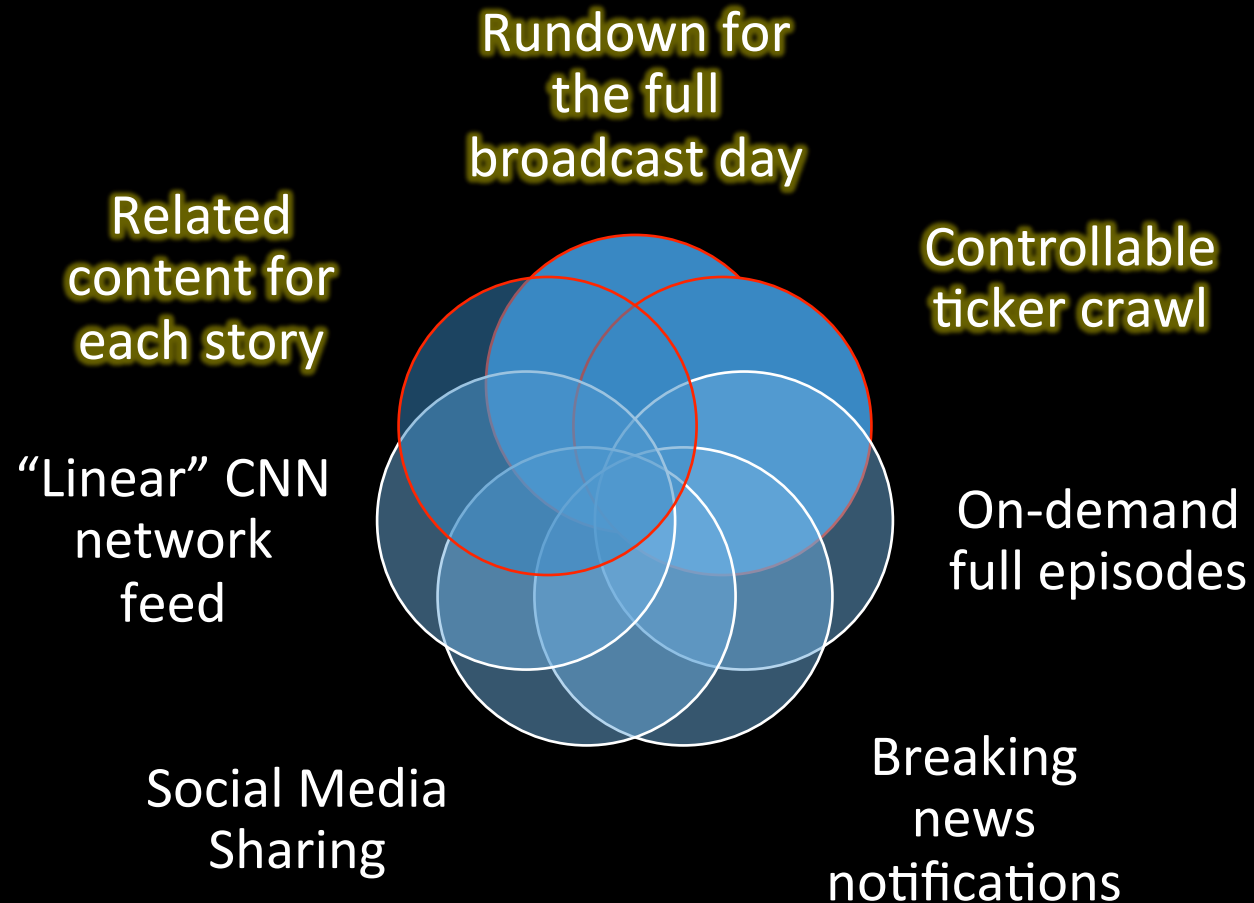From Bourdain to Boston, these are planned and breaking news events across all platforms

Syndication

Affiliate Content

CNN's video affiliate and syndication network

What is CNNgo?

Rundown for the full broadcast day

Controllable ticker crawl

Related content for each story

On-demand full episodes

"Linear" CNN network feed

Social Media Sharing

Breaking news notifications

Walkthrough / Demo

The Thorny Problems

Security and authentication
- Video stream security
- Application access

Time markup
- Show boundaries
- Segment (story) boundaries

Related content
- Selection
- Curation

Synchronization
- Video
- Data

Video origination
- Ticker
- Ancillary components

Security and Authentication

Video streams are AES-128 encrypted and played via Turner's Core Video Player

Uses industry-standard TV-Everywhere authentication based upon OATC Standards

Server-side access is restricted by short-lived authorization tokens

Time Markup

Show boundaries

- Shows don't necessarily begin at their scheduled time
- Show start is a function of the live control room

Segment (story) boundaries

- The CNNgo producer tags the start of each story.

Related Content

Multiple content sources

- CNN.com
- CNNMoney.com
- Bleacher Report (sports)
- Social Media
- Others

Multiple content types

- Articles
- Videos
- Images
- Image Galleries
- Social Media Content
- Interactive Content

Data and Video Synchronization

Video
- Time from master control is inserted into the video stream
- Television ad breaks are tagged for downstream dynamic ad insertion

Data
- All data related to the content is time stamped

But…
- Video doesn't arrive in the client applications concurrent with the associated data
- Data generally leads video by 10-40 seconds

Video Origination

Video stream includes:

- Most downstream graphics from the TV feed
- Closed Captioning
- Nielsen watermarking

CNNgo doesn't use the TV on-screen ticker

- The ticker is removed and replaced with clean program video

Architectural Overview

Native implementations for each platform

- IOS (Ipad)
- Web
- Set top boxes

Key integrations

- Avid Inews editorial tools
- CNN's Digital CMS
- Core Video Player