NetworkedPlanet
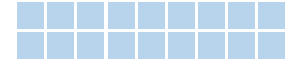
Networked Information – Networked Knowledge

IndiePix

A Novel approach to Topic Map Visualisation for Cultural Artifacts

Kal Ahmed, Networked Planet Limited
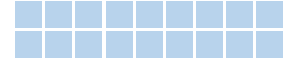
kal.ahmed@networkedplanet.com

Introductions

- Me
  - Co-founder and co-director of Networked Planet Limited
  - Worked with Topic Maps since 1999
  - Creator of TM4J topic maps toolkit

- Networked Planet
  - Formed in 2004
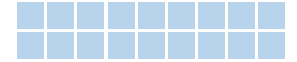 - Developing Topic Maps-based information management solutions on .NET

Introductions

- ## IndiePix

  - Online retailer of movies

  - "Download to own" – electronic distribution burned direct to DVD

  - Specializes in independently produced movies

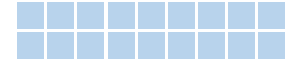 - Provides independent film-makers with a distribution channel

Agenda

- For the Executives
  - The business problem
  - The business case for topic maps
- For Everyone
  - Exploring independent movies using topic maps and SmartSearch
- For the Techies
  - How SmartSearch Works
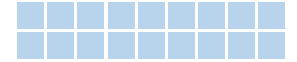 - The integration architecture
- Conclusions

The Market

- Niche retail market
  - Discerning customers
  - Global reach
- Limited (often no) marketing budget
  - Festivals
  - Word of mouth
  - Reviews
  - Reputation
- Long tail
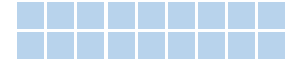 - 1 copy a day for 5 years vs. 15,000 copies in a week

The Business Problem

- There are A LOT of exciting independently produced movies out there
- There are A LOT more every month
  - Digital revolution has lowered barriers
- No marketing budget == No press coverage

- How do my consumers find films that they might want to buy ?
- How do I tailor my shelves so that users see the things that they are most likely to be interested in ?
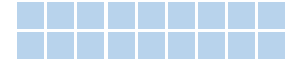
The Business Problem

- Discovery problem
  - Lots of movies, lots of new additions, no real guide to what I might be interested in
  - Can't rely on "What's Hot"
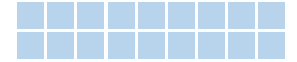 - Current sales volumes too low for an Amazon-style recommendation

The Business Case For Topic Maps

- Create a search and browse tool that helps users find what they are interested in
  - Search across multiple domain axes
    - Genre
    - Participants (actors, directors, writers)
    - Language/country of origin
    - Subject(s)
  - Browse to related films
    - Related and grouped by their commonalities
    - Example
      "If I search for Bob Dylan I should see films by / about Dylan, films by D.A. Pennebaker, films about folk music."

Exploring Films Using SmartSearch

- Walkthrough
  - Using a Proof-of-Concept UI
  - UI is Flash-based and processes XML descriptor files

Legends

Pop

Concerts

Duke Ellington - On the
Road With

Gimme Shelter

Bob Dylan - Tales from a
Golden Age: Bob Dylan
1941 - 1966

The Complete Monterey Pop
Festival

Ted Leo/Pharmacists - Dirty
Old Town

Allen Gin

Musicians

Let it Come Down: The Life
of Paul Bowles

Poetry in Motion

No Direciton Home: Bob
Dylan

Be Here to Love Me: A Film
About Townes Van Zandt

Dig!

Billy Bragg & Wilco -
Man in the Sand

Superstar - The Life and
Times of Andy Warhol

Bob Dylan:
Don&apos;t Look Back

1966 World Tour: The Home
Movies

Masked and Anonymous

Folk

Bob Dylan

Message to Love: The Isle
of Wight Festival - The
Movie

Joan Baez

Biography

Willie Nelson

Media Arts

Superstar - The Life and
Times of Andy Warhol

With God On Our Side

No Direciton Home: Bob
Dylan

Moog

Willie Nelson and Friends -
Outlaws and Angels

Steve Earle

Musicians

Be Here to Love Me: A Film
About Townes Van Zandt

Betty Blowtorch (And Her
Amazing True Life
Adventures)

Duke Ellington - On the
Road With

Down from the Mountain

Message to Love: The Isle
of Wight Festival - The
Movie

Heartworn Highways

Molokai: The Story of
Father Damien

Emmylou
Harris

Kris
Kristofferson

Townes Van Zandt

Concerts

Billy Bob
Thornton

Online Film
Critics Society
Awards

The Complete Monterey Pop
Festival

The Endurance:
Shackleton&apos;s
Legendary Antarctic
Expedition

Gimme Shelter

Unforgivable Blackness: The
Rise and Fall of Jack
Johnson

The Filth and the Fury

Holly Hu

The Piano

Searching for Debra Winger

Down from the Mountain

Bob Dylan:
Don&apos;t Look Back

No Direciton Home: Bob
Dylan

Folk

Only the Strong Survive

The Exploited - Rock &
Roll Outlaws

Alice Cooper - The Alice
Cooper Story

The Fog of War

Chris Hegedus

Footage

John Lennon: Sweet
Toronto

D.A. Pennebaker

INDIEPIX™
CELEBRATING INDEPENDENT FILM

Down from the Mountain (2001)

IndiePix price: US **$11.95**   add to cart

The musicians behind the Soggy Bottom Boys, which is the name of the fictional bluegrass band in the Coen brothers's movie O BROTHER, WHERE ART THOU?, are featured in this documentary, which centers on a bluegrass concert in Nashville, Tennessee given by the bands that contributed to O BROTHER's soundtrack, and provides a brief history of folk and bluegrass music.

Awards
- **Best Documentary (Nominee)** 2002 Online Film Critics Society Awards (Online)

click on a still to enlarge

Film festivals
- **Karlovy Vary International Film Festival** 2003 (Karlovy Vary, Czech Republic)
- **Newport International Film Festival** 2001 (Newport, United States)

Look for similar titles
- By director: Nicholas Doob, D.A. Pennebaker, Chris Hegedus
- By genre: documentary, music & performance
- By language: English
- By country: United States
- By search word: concerts, documentary, folk, footage, music
- By decade: 2000s

browse by genre

genres: documentary, music & performance

search words: concerts, documentary, folk, footage, music

runtime: 98 minutes

country: United States

language: English

attributes: full-frame

rating: G (MPAA)

dvd region: region 1

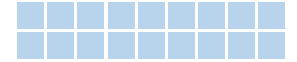cast and crew:

Nicholas Doob: Director

Chris Hegedus: Director

D.A. Pennebaker: Director

T-Bone Burnett: Actor

Ethan Coen: Actor

Joel Coen: Actor

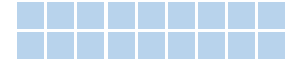John Hartford: Actor

SmartSearch Navigation

- The most important things are the films!

- At each stage minimize information overload
  - Only show the top 16 related films
  - Only the top 8 related topics
  - Hide the type of the relationship

- Clicking on a film refocuses the display
  - Gradual shift of subject focus as you browse

- Compare to the normal "Lists of Metadata" approach
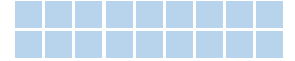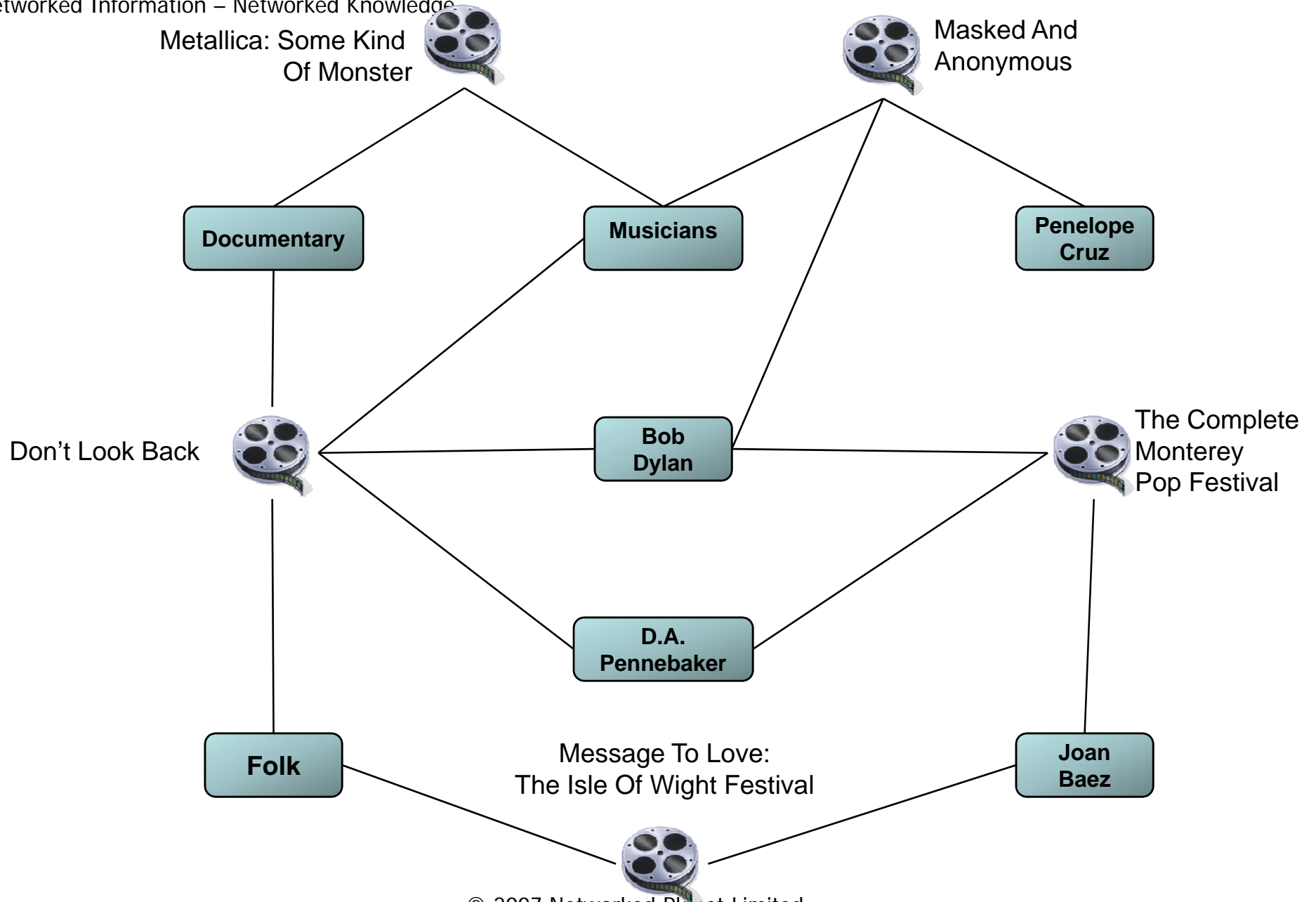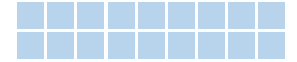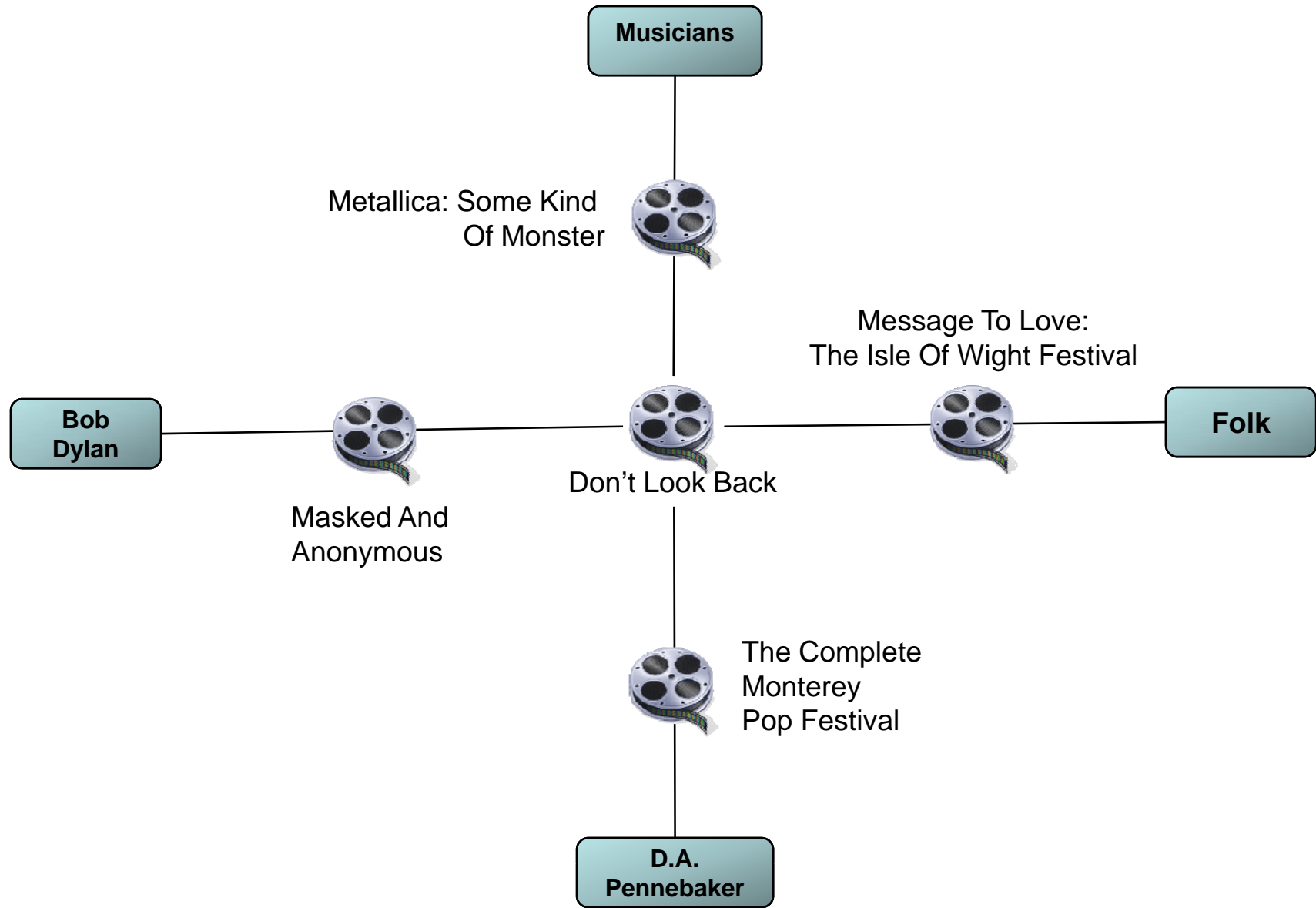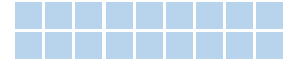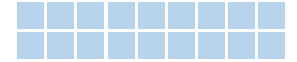
THE TECHIE BIT...

How SmartSearch Works

- Ontology
  - Simple "classification"-style ontology.
  - Movie topic type is the "classification target"
  - Topic types created for key classifiers:
    - Genre, Person, Country, Language, Award, Festival
  - Generic "Subject" topic type called "Tag"
    - All the other classifiers subclass from Tag
  - Association types created for classification purposes and to structure classifiers hierarchically
    - Country/Region hierarchy
    - Tag hierarchy (thesaurus-style BT/NT)
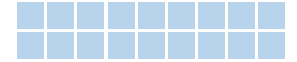
Metallica: Some Kind Of Monster

Masked And Anonymous

Documentary

Musicians

Penelope Cruz

Don't Look Back

Bob Dylan

The Complete Monterey Pop Festival

D.A. Pennebaker

Folk

Message To Love: The Isle Of Wight Festival

Joan Baez

Musicians

Metallica: Some Kind
Of Monster

Message To Love:
The Isle Of Wight Festival

**Bob
Dylan**

Folk

Don't Look Back

Masked And
Anonymous

The Complete
Monterey
Pop Festival

**D.A.
Pennebaker**

Integration

- Current website:
  - Apache server running on Linux
  - PostgreSQL database for "CMS"
  - Custom Perl-based front-end for editors to enter and tag films
- Phase 1 Goal
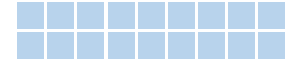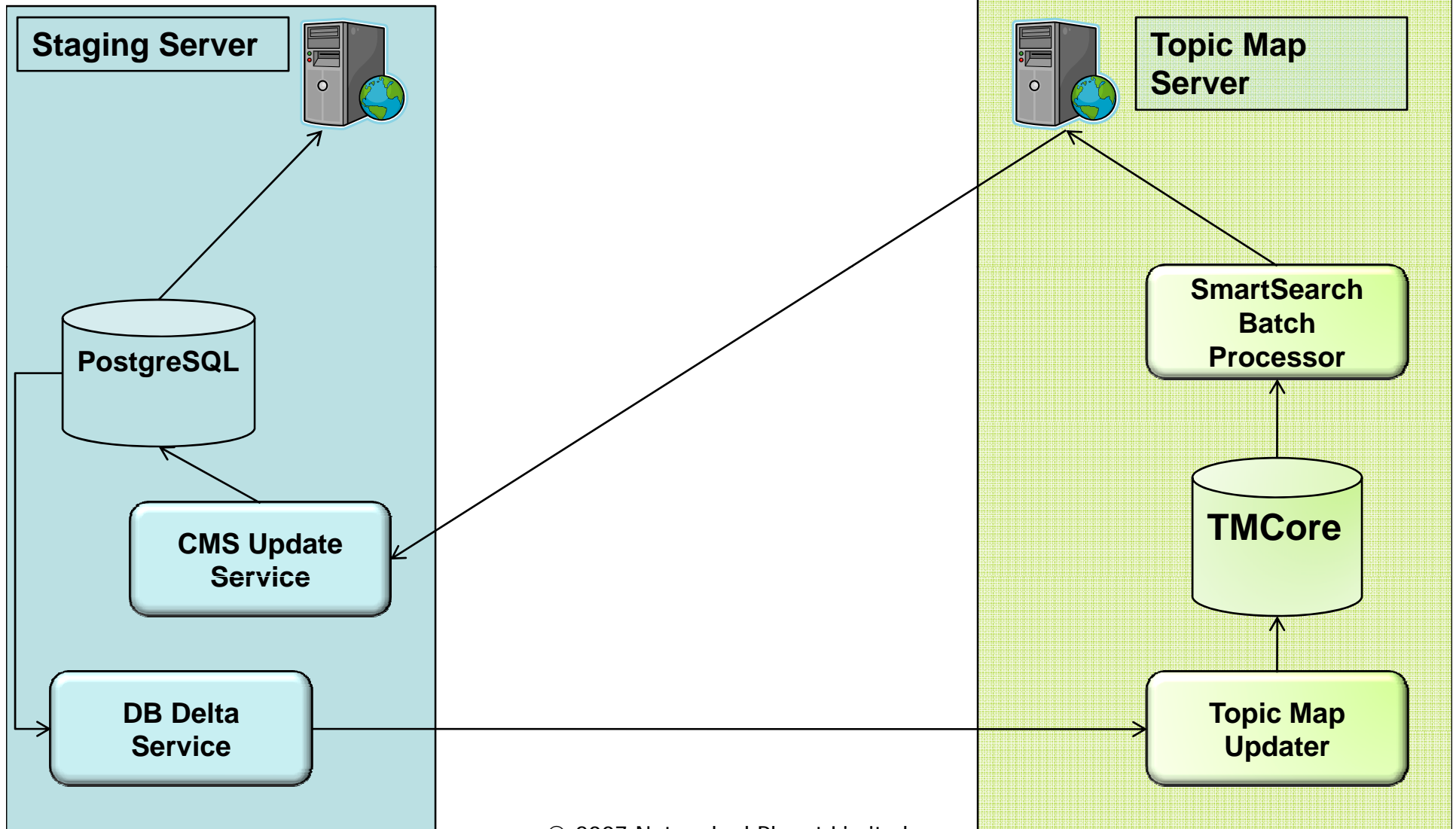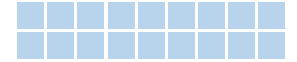 - Show benefits without disrupting current environment

Integration

- ## Current System:
  - ### Meta-data from third-party provider
    - Arrives as XML
    - Parsed and stored in the database
    - Not available for all films
  - ### Editor
    - Creates description of film
    - Adds film meta-data using controlled list of terms
    - Content and meta-data stored in the database
  - ### Publication
    - Perl scripts pull together page content from the database
    - Search provided through text indexing of descriptions

Architecture

Staging Server

PostgreSQL

CMS Update Service

DB Delta Service

Topic Map Server

SmartSearch Batch Processor
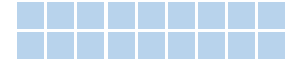
TMCore

Topic Map Updater

Integration

- **Extremely light-weight**
  - Perl scripts (CGI and cron job)
  - C# code kicked off by CruiseControl.NET
  - XML files & HTTP transfer

- **Builds on existing CMS infrastructure**
  - Publish through Perl scripts connecting to PostgreSQL
  - Will be easy to integrate into both search and navigation structures
  - Will be used to generate navigation from film-specific "landing pages" created for Google Ads

- Cheap
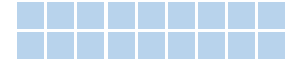 - About 10 days from initial analysis to working solution

Conclusions

- Compelling browsing interface
- Great start page for a search results instead of a list

- Lessons learned
  - Sometimes its not necessary to show everything
  - Patterns:
    - Divide topic map into "classified" and "classifiers"
    - Lightweight integration based on identity mapping only
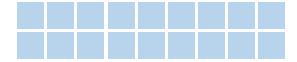   - Weighted co-occurrence algorithms give interesting clustering

Conclusions

- ## TODO List

  - ### Integration into live site

    - Currently waiting on a redesign

    - Will be moving over to PHP for web publishing– but no impact on this system!

  - ### Expansion

    - Use topic hierarchies to enable expansion of results sets where less than 16 results initially

    - E.g. expand "Iraq" to "Middle-East"

Networked**Planet**

Networked Information – Networked Knowledge

Thank You

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