

Government to Citizen Mass Scale  
Authorised Alerting,  
by 'Cell Broadcasting'.  
"Its about time".

By

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**CTO, Ocho Rios, Jamaica.**

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# 'Cell Alert' System Via Cell Broadcast.

By

Cellular Emergency Alert Service Association (CEASa) .

CEASa is a not-for-profit Voluntary organization which exists to further Humanitarian applications of Cell Broadcasting for government-to-citizen mass alerting.



CellAlert

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# Can we have a successful Disaster?

Disaster = Hazard X Vulnerability

*(International Federation of  
Red Cross and Red Crescent)*

# What the experts said;

*Bangkok, February 23rd 2005:*

*"True Corporation president and CEO Supachai Chearavanont [one of the Thai mobile networks ed] said that the company would upgrade some of its cell stations to be able to broadcast messages alerting its mobile phone users using a technique called Cell Broadcasting. After the tsunami event, True did not have a chance to fulfill its role to communicate to people because the capacity of its cell sites was limited, he said.*

*True plans to upgrade 400 cell stations, out of a total of around 1000, in the next couple of months to have this cell broadcasting capability.*

*The technique will allow the operator to broadcast streaming text messages to between 100,000 and a million users a minute, he said, noting that the process took less time than to send an SMS message and that every operator should coordinate in this project in order to create an efficient nationwide warning system.*

*Under normal circumstances, this cell broadcasting system could also be used as a direct marketing tool, he noted."*

# What the experts said;

British Red Cross report on the London 7/7 Bombings;

*During that Thursday most of the telephone networks ceased due to overload. Not only the mobile networks but also the landline systems as well. Call-out communications were, as one can imagine, a major problem.*

*Although we managed to call our members out mostly by text messaging, this was at times and in certain areas, slow. Maybe now is a good time to push with the relevant parties [the} Cell-Alert system in order to maximize our resilience to communication failure at the time when the Red Cross are most needed.*

# What the experts said;

*ETSI conference, Cannes, February 14th 2005:*

*Quotation from official statement from the European Union Commissioner for Information, Society and Media, Viviane Reading*

*"New applications of mobiles are constantly developing, we are currently investigating whether and how these networks could be used for early warning of the public of an imminent threat or disaster, and what further actions would need to be taken, for instance to ensure a harmonised implementation of cell broadcast across the world's GSM networks and phones."*

# Covered in this presentation;

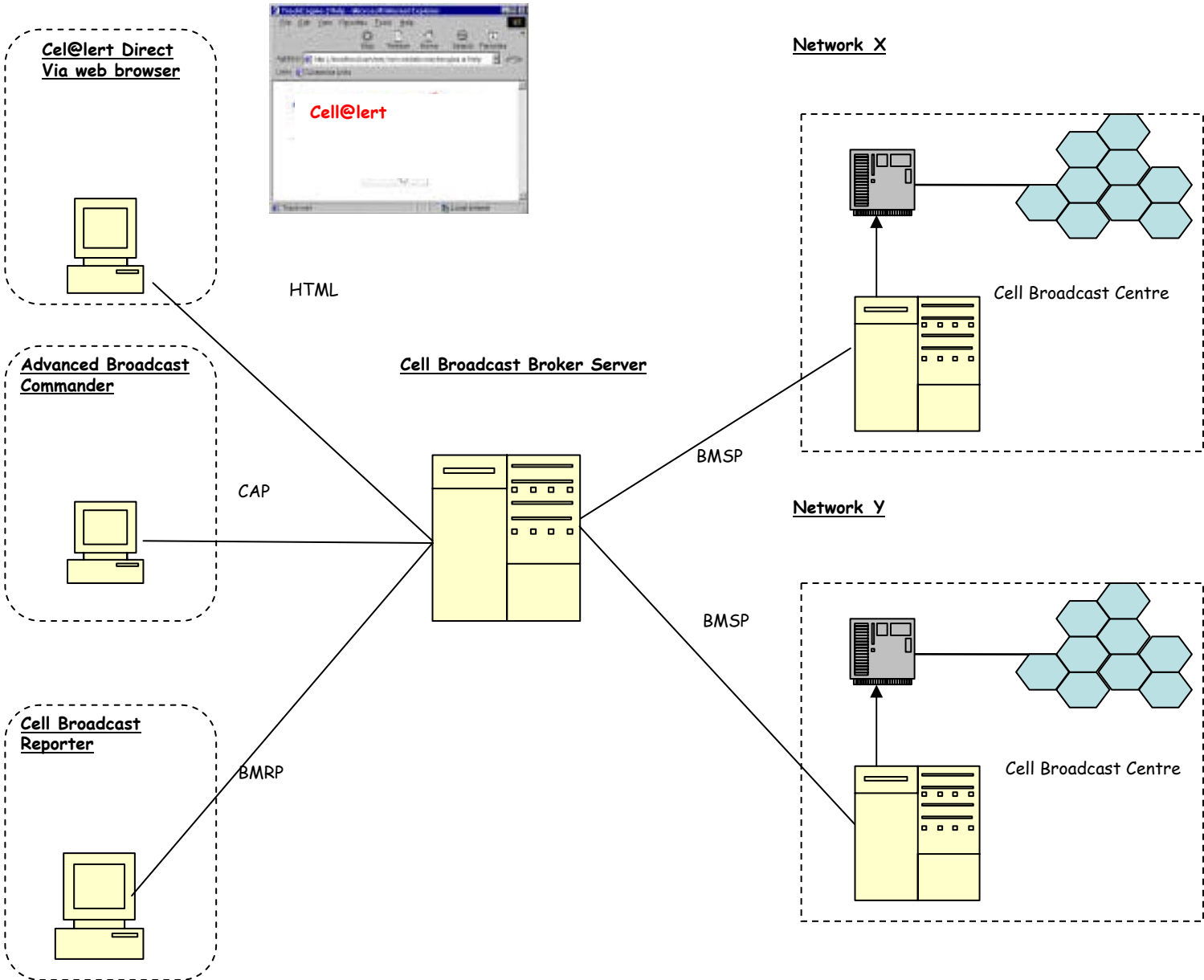
- Technology
- Political issues
- International Channels.

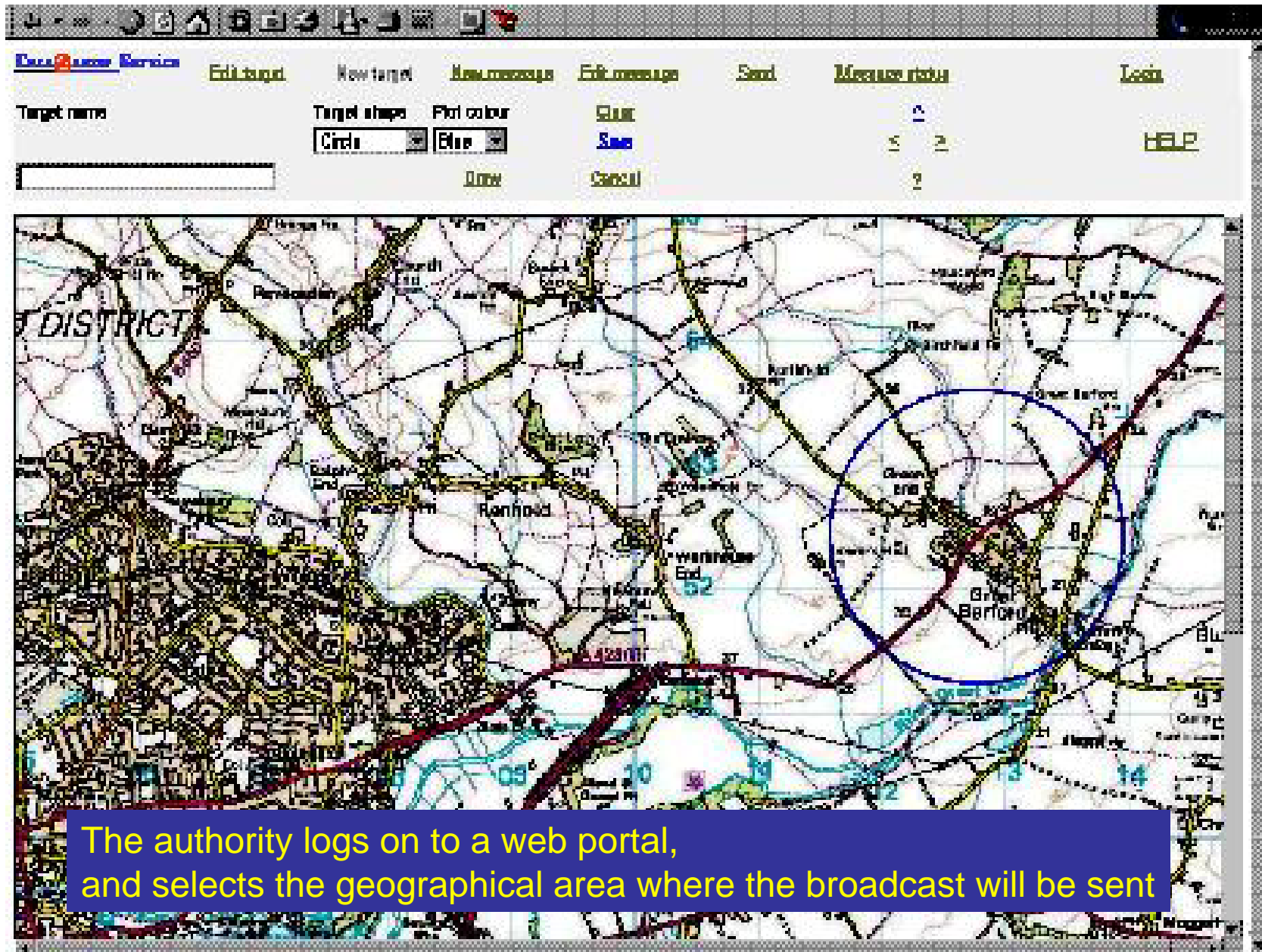
# There are five main points to remember about Cell Broadcast.

- Uses the 'Cell Broadcast' (Area Information) feature that most mobiles already have built in; no need to build anything.
- 'Downlink-only' true 'Broadcast' means No limit to scale; can talk to hundreds of millions at one time will not crash the networks.
- Uses capacity not taken by calls, so is immune to failure due to overloading as always happens during disasters.
- We can target individual 'cells' (Towers) so it is geo-specific. You can tell one village to evacuate and another to stay where they are.
- We can secure it so that spammers hackers and spoofers cant get in, only authorised government officials.

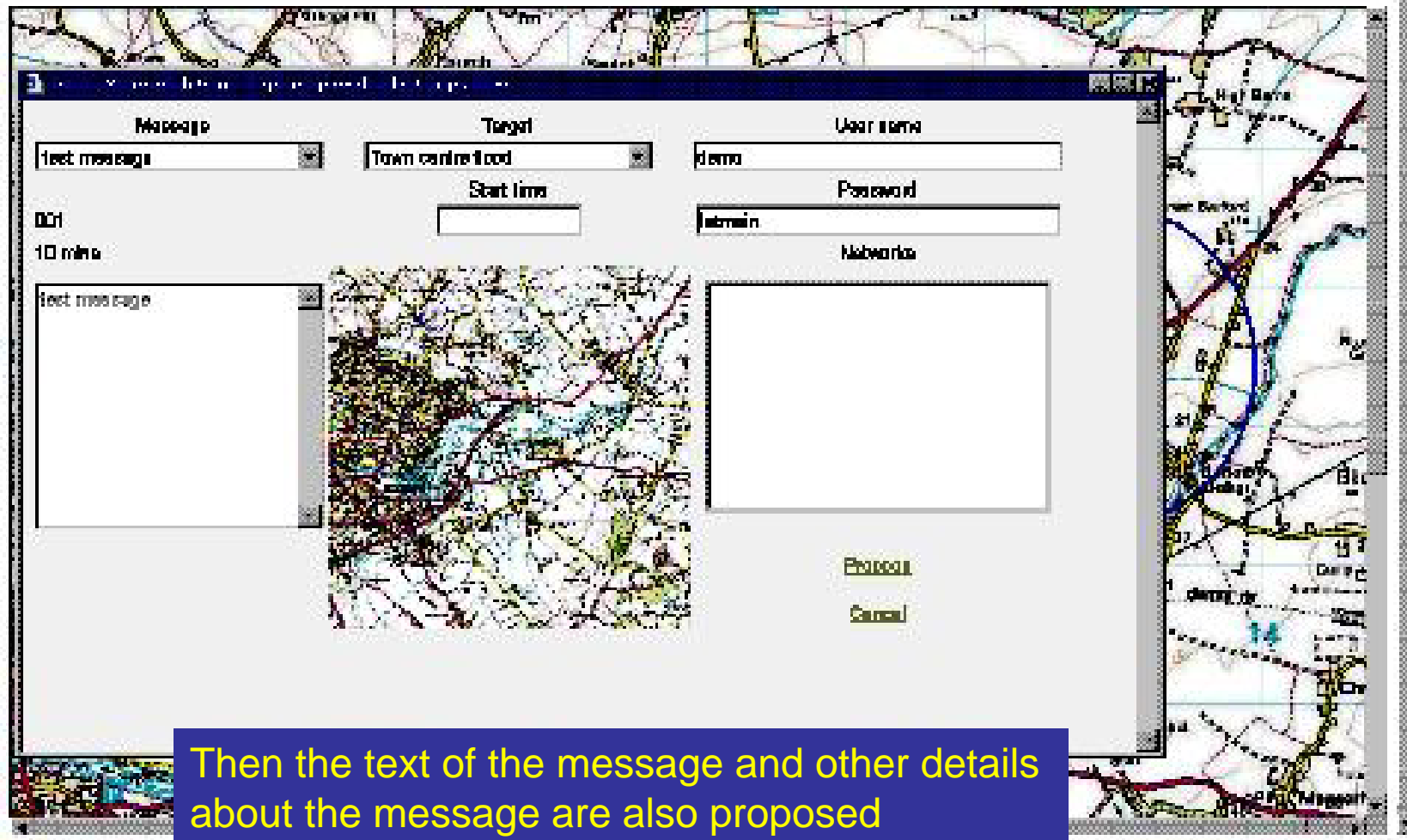


# Cell@lert system Components

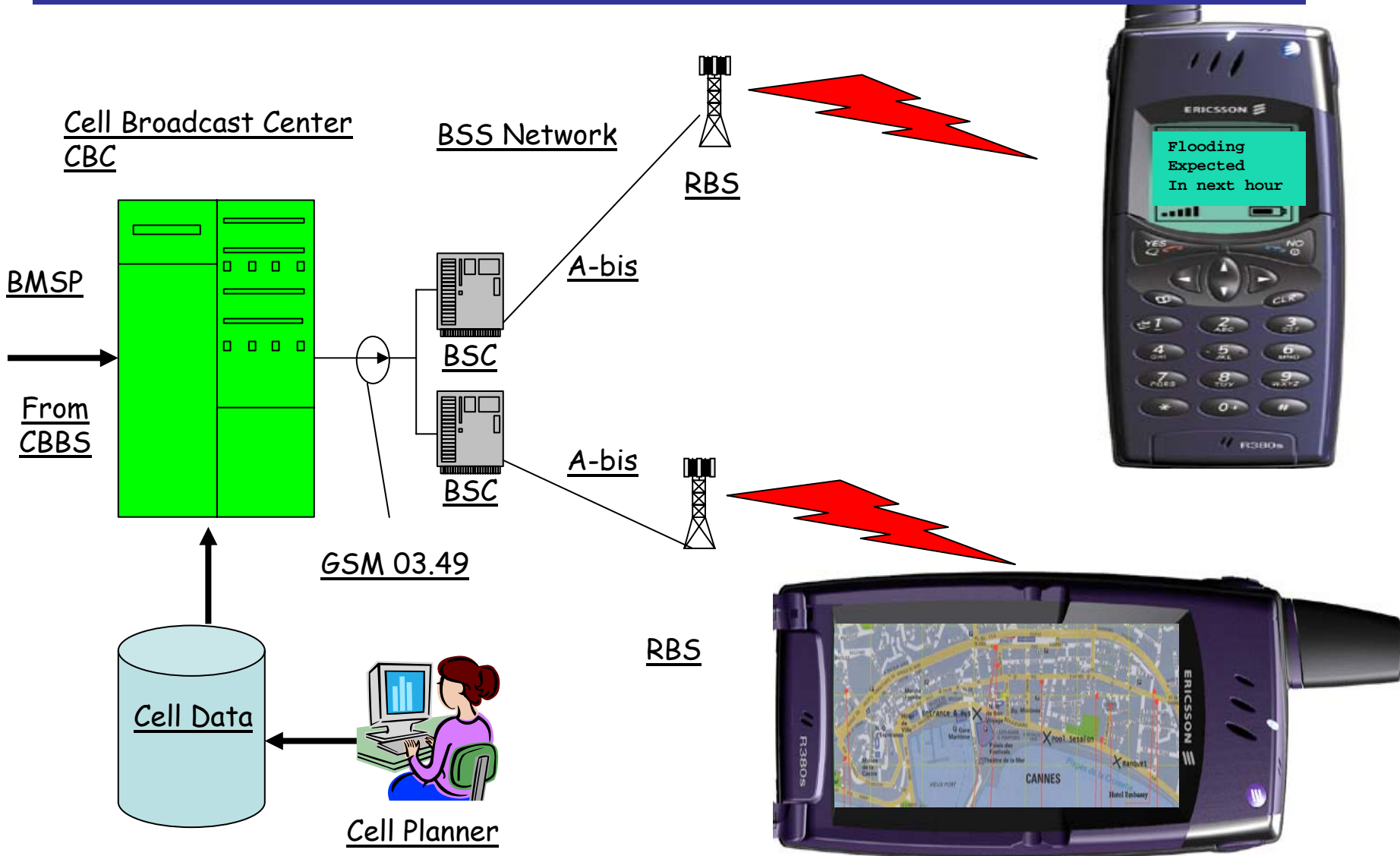




The authority logs on to a web portal, and selects the geographical area where the broadcast will be sent



If the Broker sees that all policy has been followed, then it is reformatted and Signaled to each network in turn. It is then broadcast to all mobiles camped On the affected cells, which then alarm and display the message.



# Impact on Networks

- Is not affected by, or cause congestion, uses CBCCH not TCH (not using traffic channels). So it will work even in full overload situations such as disasters.

# Impact on phones

- To enable the feature, the user can switch it on from the 'area information' menu on his phone.
- Channels can be enabled by over-the-air-activation-teleservice once the feature is switched on, but right now the default is off, we need to change that.

# Impact on regulation

- Urgent need for harmonized channel identification scheme to make it practical for travelers and tourists, and to prevent spamming.
- Improvements to standards needed to make sure phones give priority to emergency messages.

# Political Issues;



- *Senders ( e.g. Police) must be authorized by national law. Messages must be authentic and follow national policy.*
- *Resistant to Hackers and Spammers.*
- *Not acceptable for warnings only to subscribers on one network, must be all*
- *EU law requires accountability, accordingly reporter system is part of solution.*
- *Government to Government communications in order to reach closed user groups such as off duty reservists.*



# Agencies;



- *Senders, e.g. coordinators need to have previously arranged accounts.*
- *The governments and networks must agree to this facility being made available to relief agencies, and so MoUs must be provided to control this.*
- *Can be used for call out of off duty staff.*

# Agencies channel codes;



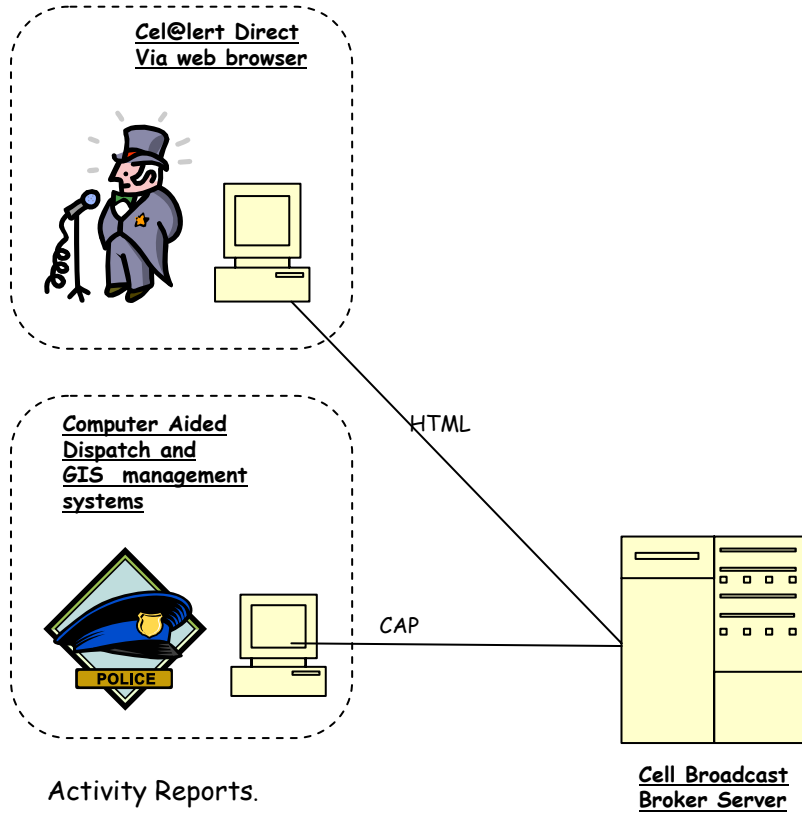
- *671 Maritime service channel. (IMO)*
- *672 Aeronautical service channel. (ICAO)*
- *673 Amateur service channel. (IARU)*
- *674 Scientific services (eg ISNDR-PPW).*
- *690 UNSECORD (UN Security Co-Ordinator.)*
- *691 UNICEF (Child security)*
- *692 WFP*
- *693 WHO (health related info)*
- *694 UNHCR*
- *695 OCHA (IA Co-ordination)*
- *696 Red Cross/ Crescent Movement.*

# Diplomatic Issues;

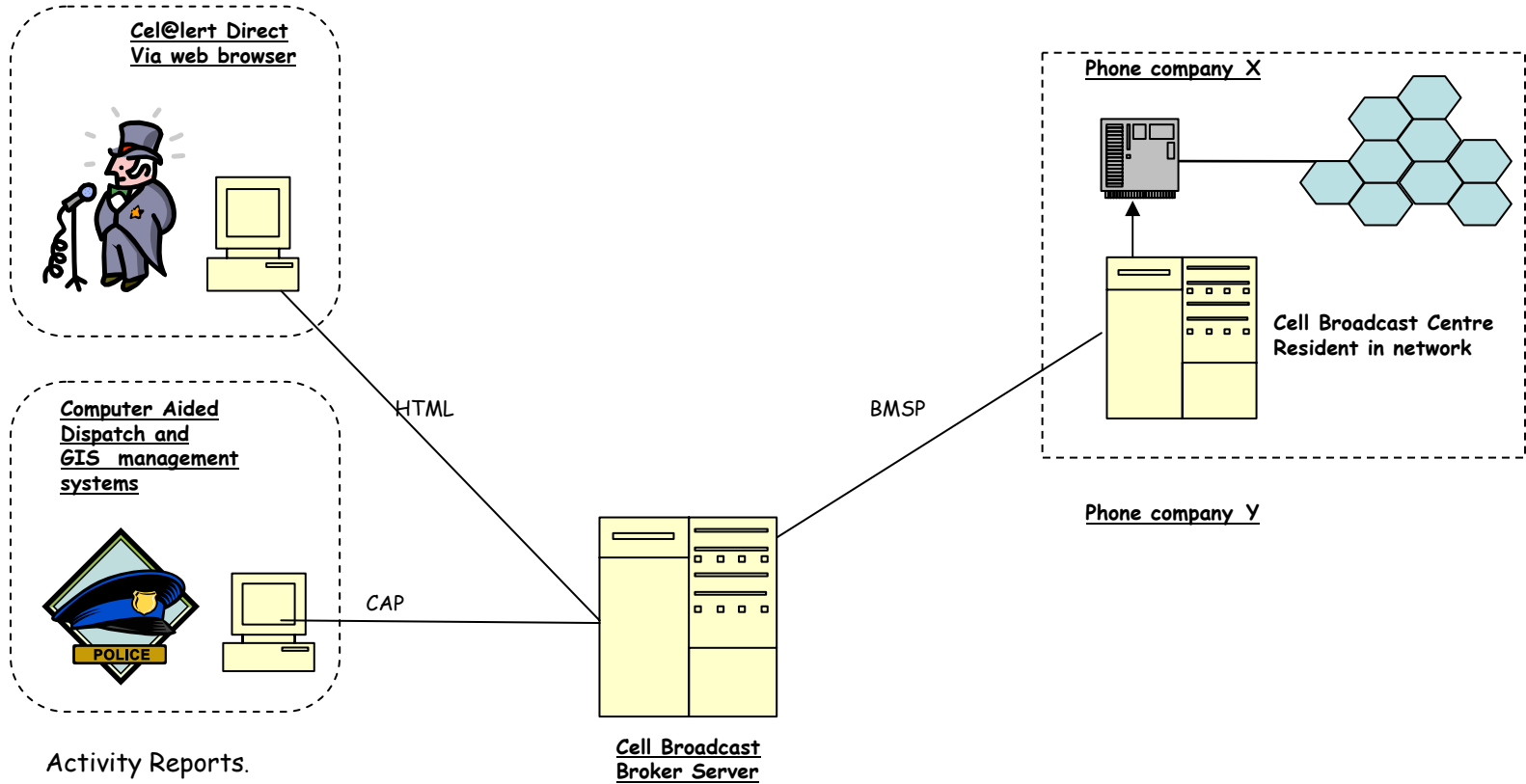


- *National sovereignty must be respected*
- *National systems must fully integrate with international projects.*
- *Should be complementary to but never compete with existing and proposed system.*
- *Harmonized approach to language codes.*

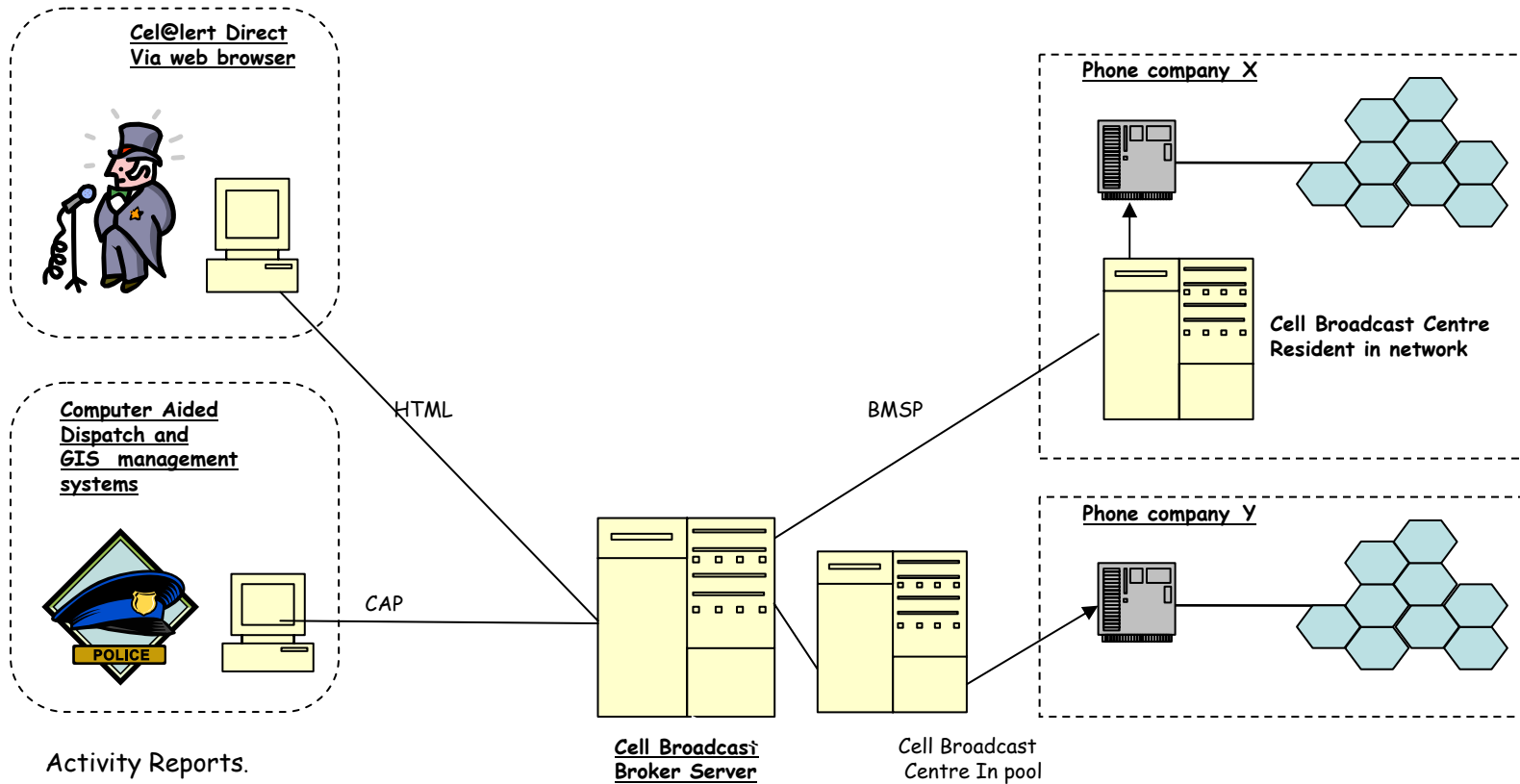
# Cell@lert system Components



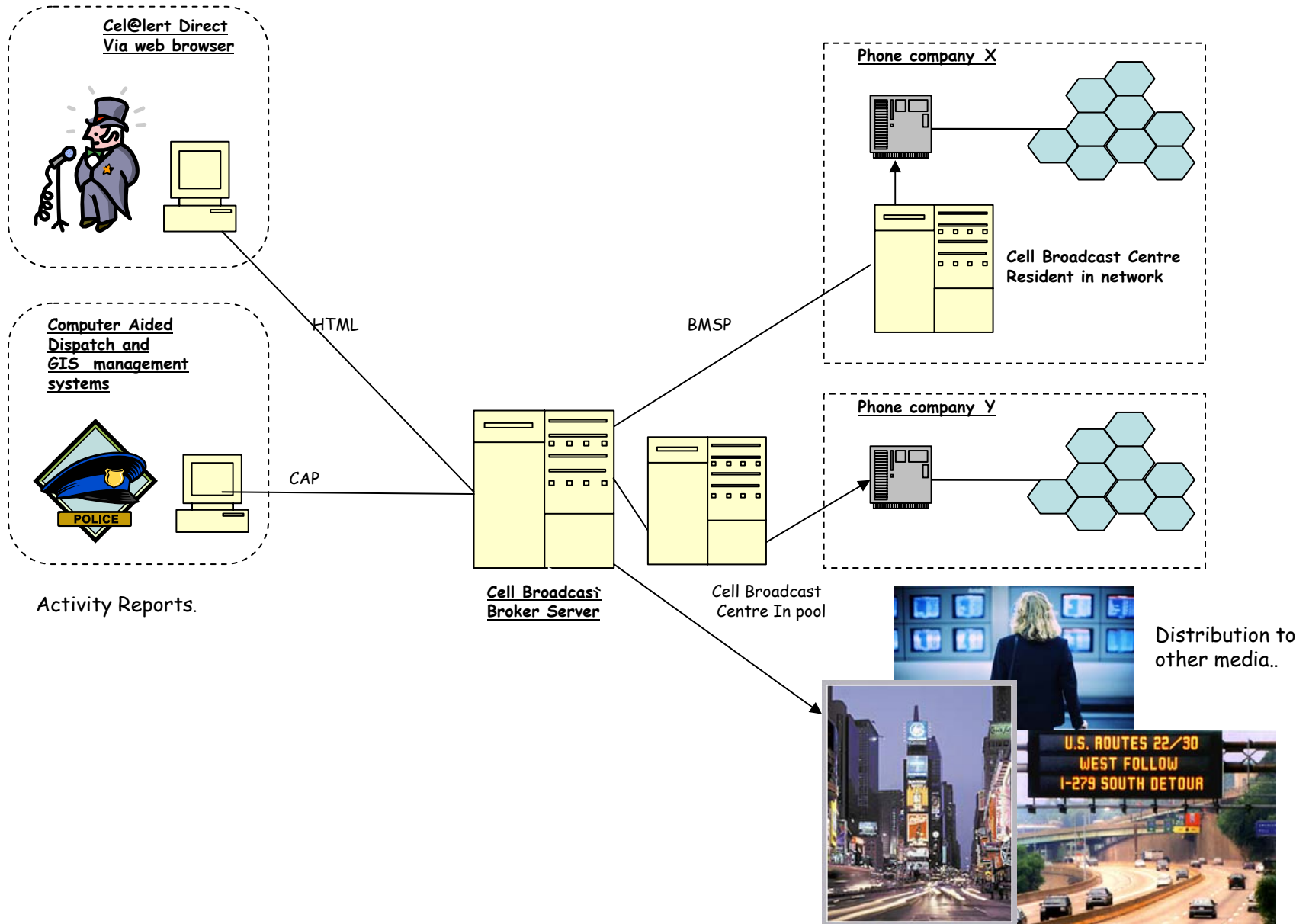
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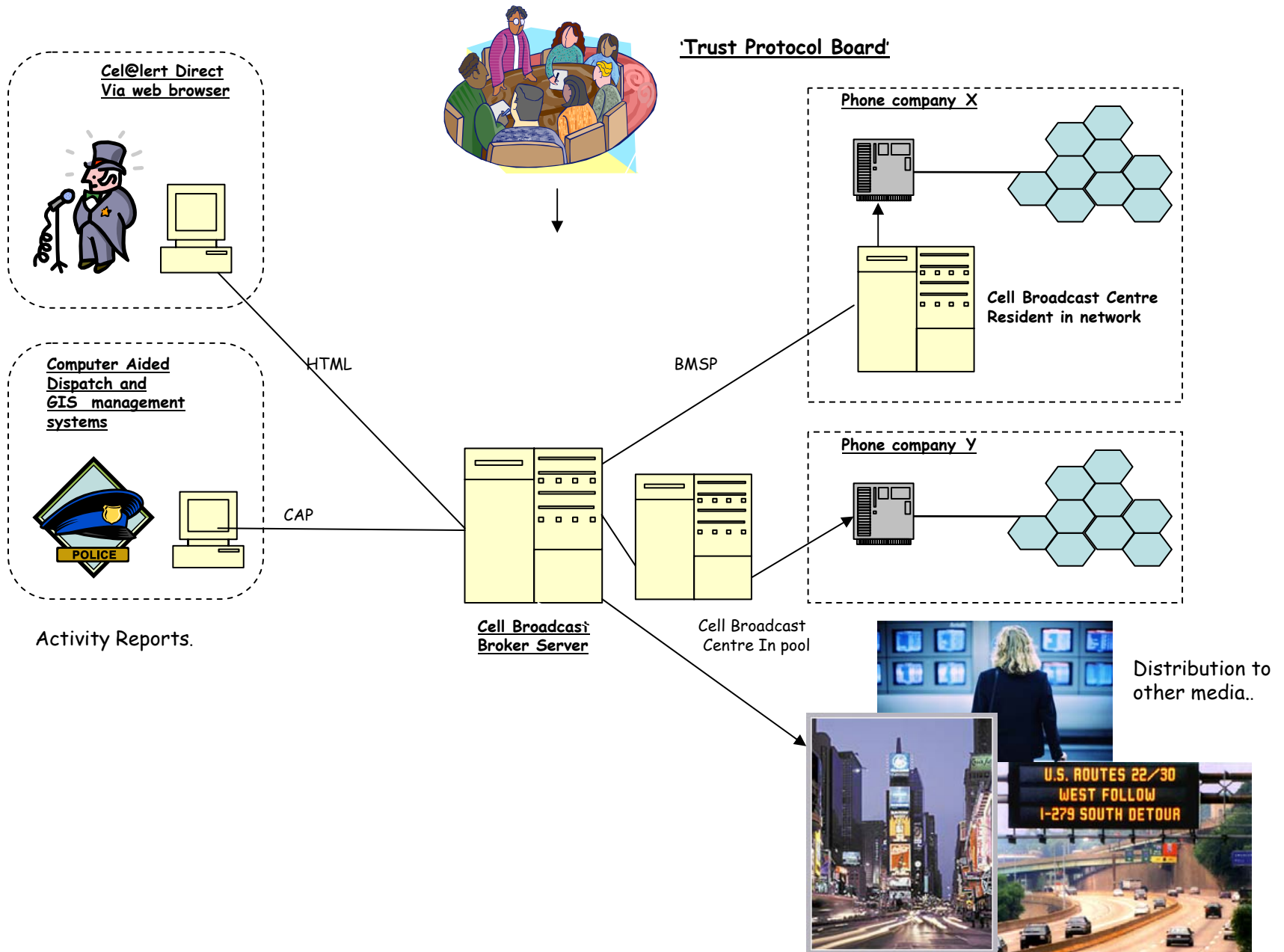
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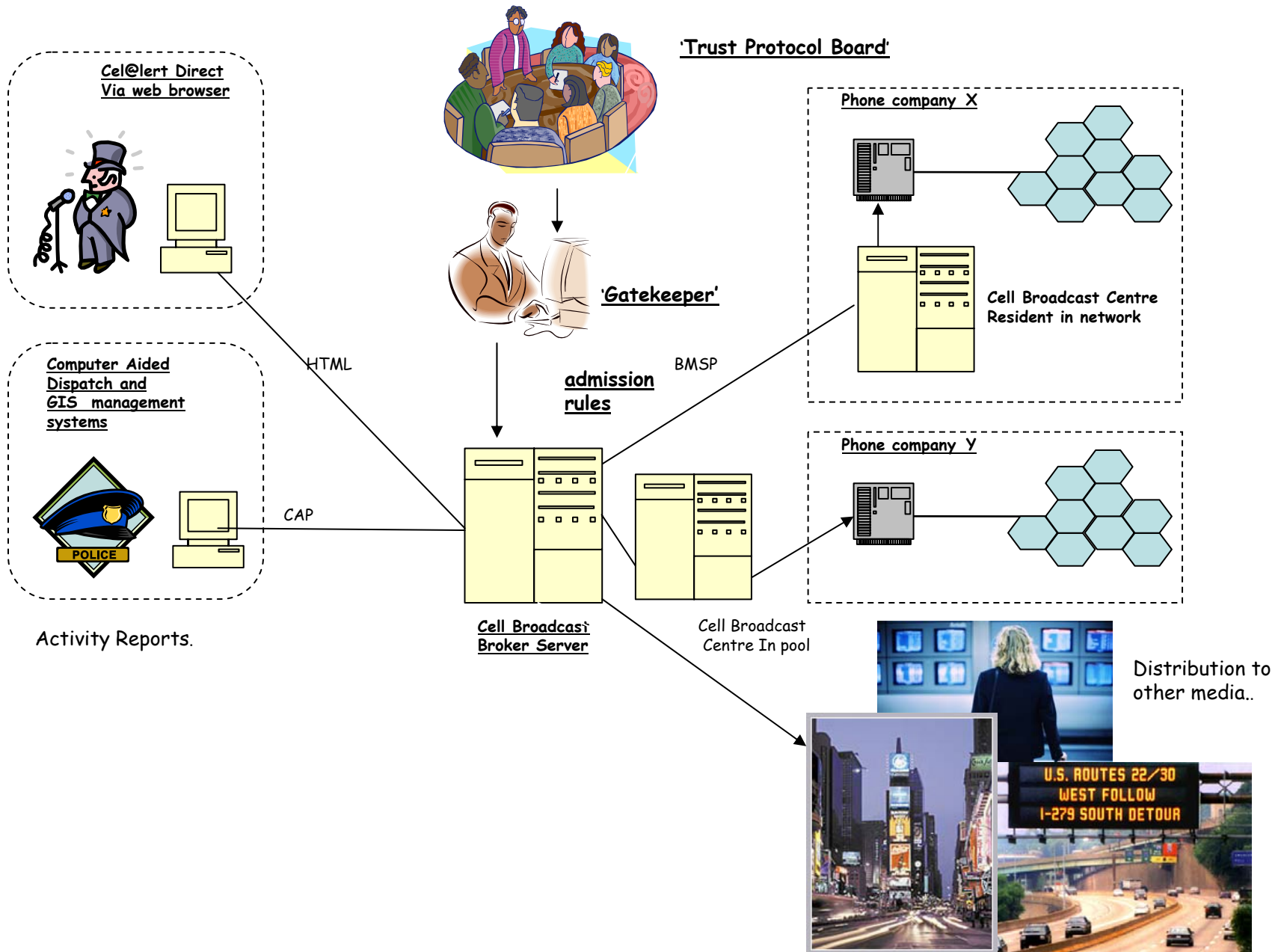


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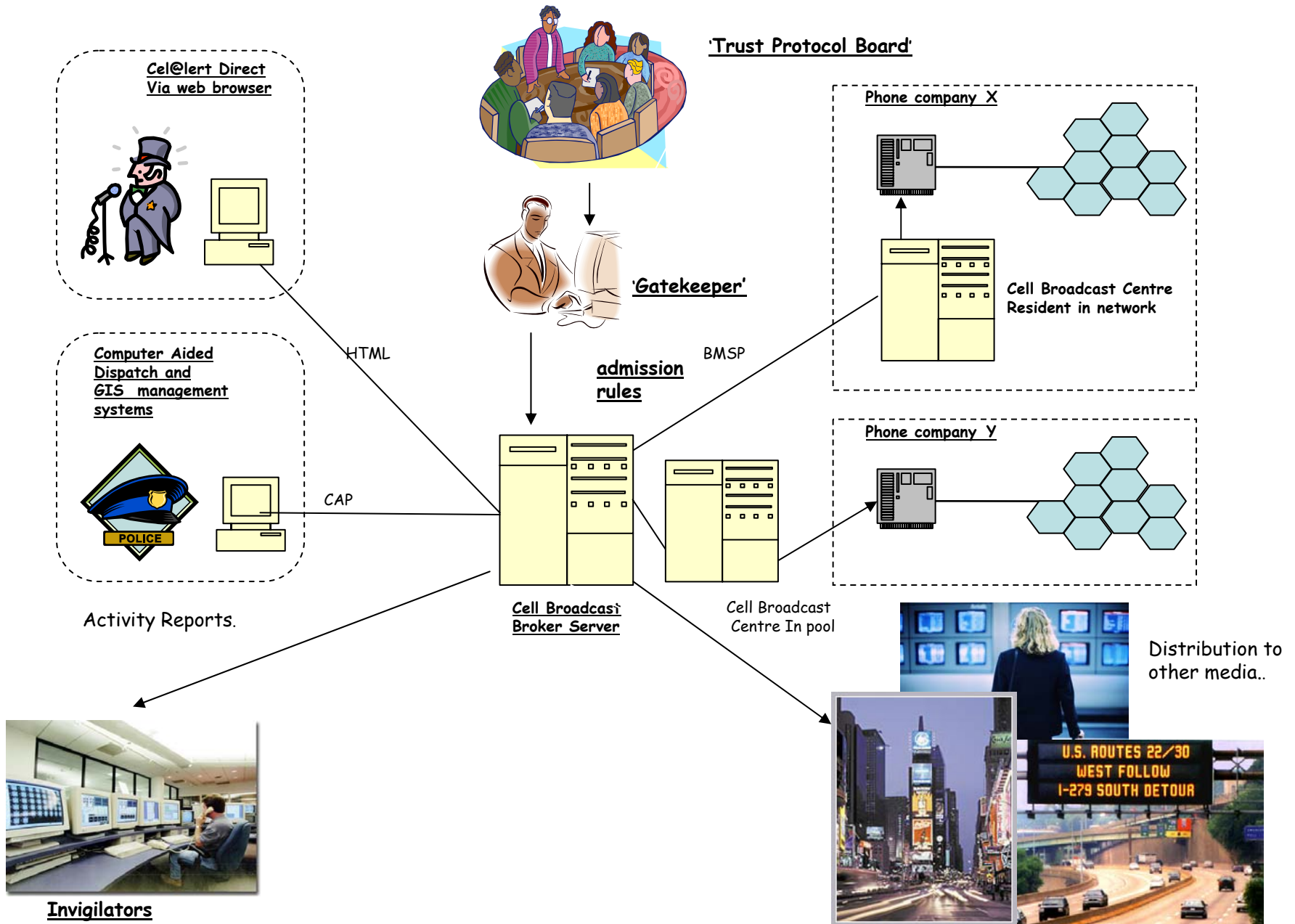




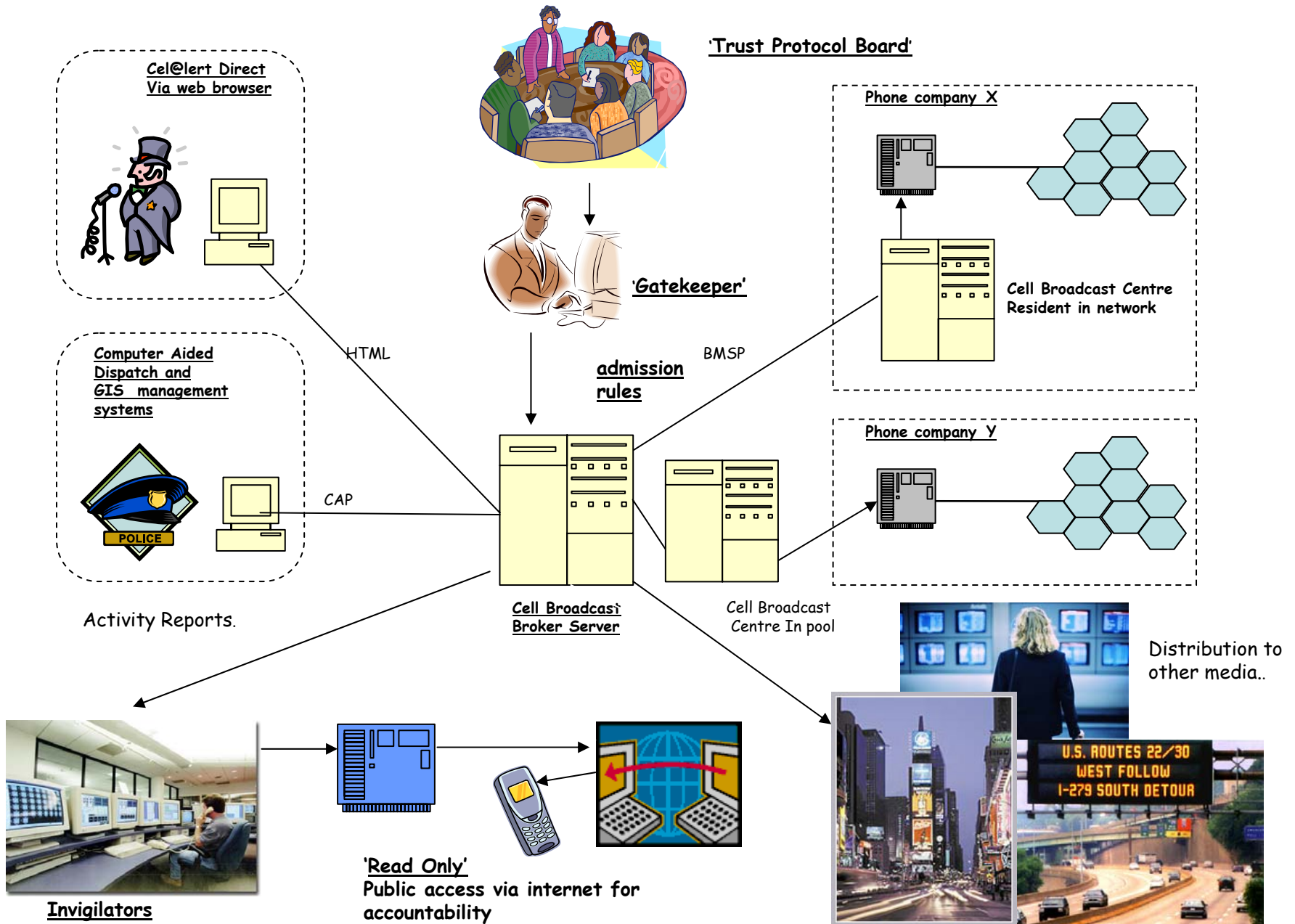
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# 'Cell@lert' System

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## The End



CellAlert

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