

PLANNING FOR EMERGENCY CAMPUS COMMUNICATIONS

#MPD10

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CREATING THE NEXT®

OVERVIEW

0. Background

1. Have A Plan

2. Test The Plan

3. Don't Let Your Server Melt



BACKGROUND

- ▶ Why me?
- ▶ Define emergency?
 - Slow emergency
 - Fast emergency
- ▶ Is there a ~~doctor~~ elephant in the room?

BACKGROUND

- ▶ Why present?
 - ▶ Different people involved
 - ▶ Different design goals
 - ▶ Different server architecture
- ▶ Where we began

HAVE A PLAN

Get the right people involved and planning ***before*** an emergency happens.

- ▶ Police/Emergency Responders
- ▶ Communications
- ▶ IT

HAVE A PLAN

Desired result: **a written plan and checklist** for emergency communication scenarios, outlining actions to be taken by all involved.

This should include actions to be taken **before and after** an emergency, as well.

HAVE A PLAN

Categorize Your Emergencies

- Shooting
 - Bomb threat, Fire, Chemical spill
 - Riot
 - Severe Weather
 - Others? (traffic, epidemic, etc.)
- ▶ Determine who will establish an emergency in each category.
 - ▶ Determine who will author the communications for each category.
 - ▶ **Establish templates** for each category.

HAVE A PLAN

Enumerate Your Channels

- ▶ SMS/Push
- ▶ Phone
- ▶ Email
- ▶ Main campus website(s)
- ▶ Social media (Twitter, Facebook, etc.)
- ▶ Others: electronic signage, cable TV, outdoor sirens

HAVE A PLAN

Channel Details & Synchronization/Convergence

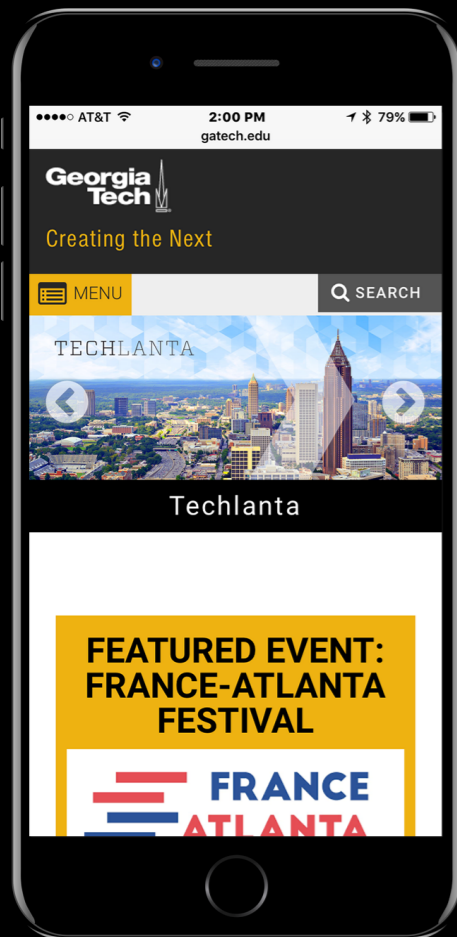
- ▶ Establish who will publish to each channel.
Where will these people be and how will they access each channel (even if your campus network is not available)?
- ▶ Enumerate any special limitations for each channel (e.g. 140 char limit for Twitter).
- ▶ Have a plan to keep the channels in sync.
- ▶ Our choice? **direct all channels to web**

HAVE A PLAN

Web Design For Panicked Users

- ▶ Plain text/quick-loading website
- ▶ Mobile-friendly/mobile-first design
- ▶ Summary/Context of the event so far, timestamps for each message
- ▶ Access to additional information (maps, directory, etc.)
- ▶ Access to other humans (phone numbers to call)

HAVE A PLAN



Georgia Tech Home Campus Map Directory Offices

Georgia Tech **Creating the Next**

About Academics Admissions Campus Life Athletics Research News & Events APPLY > GIVE > SEARCH

The Care and Feeding of Student Startups

When a budding entrepreneur demonstrates "proof of concept" for a product or service, what happens? More investors jump in. [FULL STORY](#)

Majors and Degrees

Georgia Tech offers a wide variety of technologically focused degrees. Explore the more than 130 majors and minors available. [All Degree Programs](#)

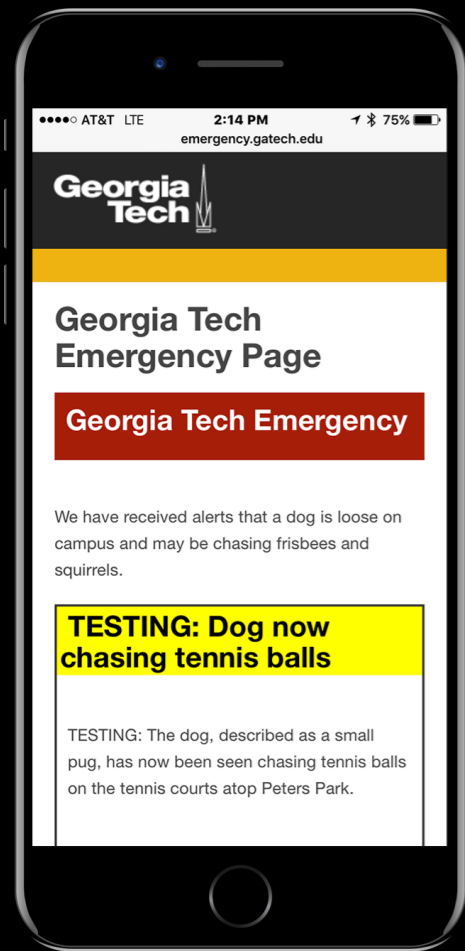
Prospective Students

Choosing the right college can be complex. Learn more about Georgia Tech's academics, admissions, campus life, costs, and aid. [Prospective Students Information](#)

Admissions

Our holistic admission process considers your academic background as well as your pursuits and interests outside the classroom. [Admissions Overview](#)

HAVE A PLAN



HAVE A PLAN

Timing Of Communications & Specificity

- ▶ Intractable problem of when to push the first notice (the *cry wolf* problem)
- ▶ Made worse by repeated use of the same template
- ▶ Combat by “*burning*” used templates and authoring a **larger number of more specific templates**
- ▶ People crave specificity. Templates can be vague, but follow up as soon as possible with *appropriate details*.

HAVE A PLAN

Frequency Of Communications

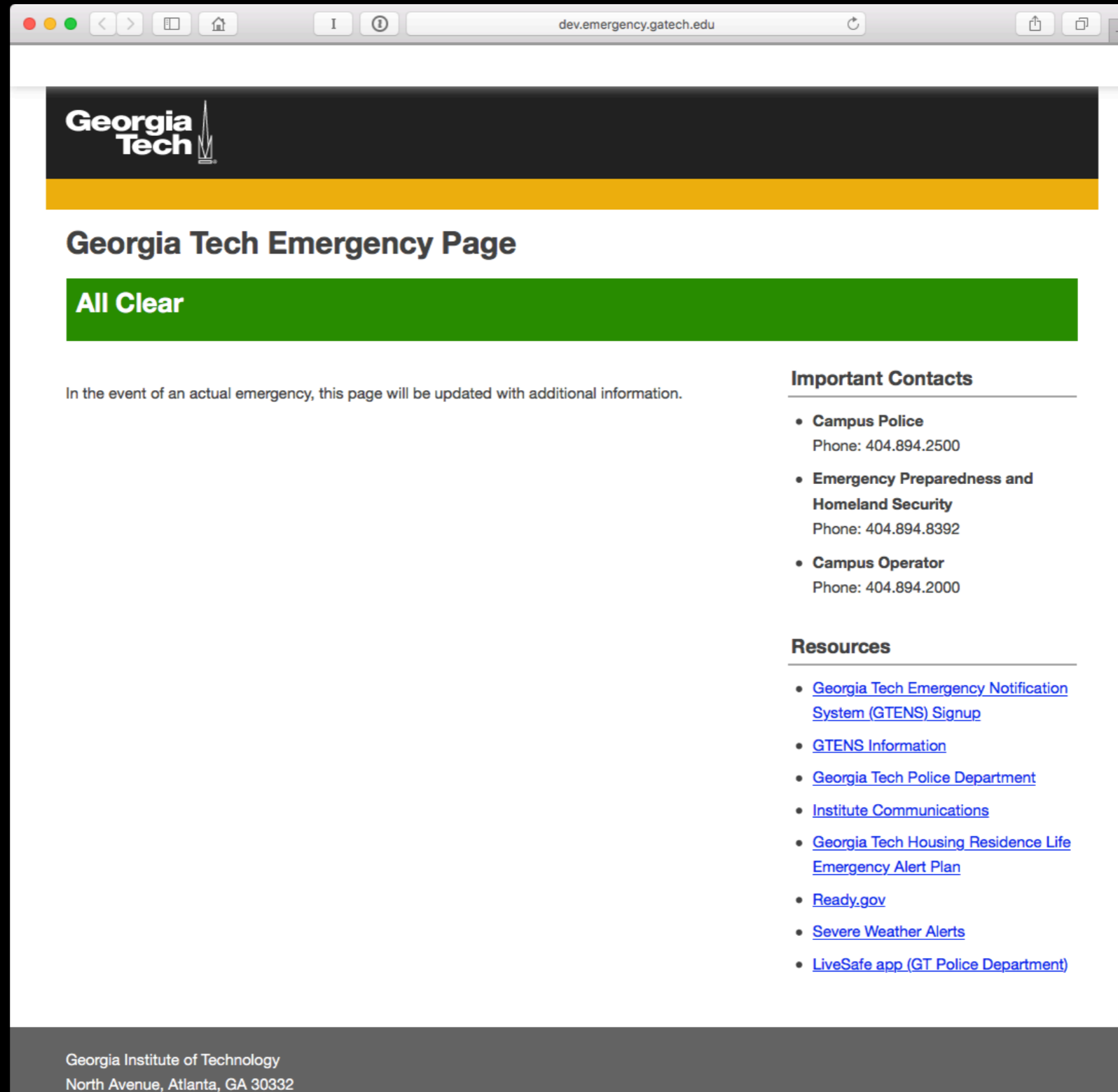
- ▶ Establish minimum & maximum time required between postings (by technological limitations, policy, or acceptable noisiness)
- ▶ Establish expectation of next message (explicitly or implicitly).
Don't avoid non-informative messages.
- ▶ Time and/or lack of communication drives users to other channels (social media). See Amy Well's "Tragedy, Pitchforks And Twitter" talk (Google for "highedweb 2015" video).
- ▶ Post-event communication

HAVE A PLAN

Emergency website communication "states"

- ▶ Normal
- ▶ Emergency
- ▶ Post-emergency

HAVE A PLAN



The screenshot shows a web browser window with the URL `dev.emergency.gatech.edu`. The page features the Georgia Tech logo at the top left, followed by a yellow horizontal bar. Below this is the title "Georgia Tech Emergency Page" and a prominent green bar with the text "All Clear". A message states: "In the event of an actual emergency, this page will be updated with additional information." To the right, there are two sections: "Important Contacts" and "Resources".

Georgia Tech

Georgia Tech Emergency Page

All Clear

In the event of an actual emergency, this page will be updated with additional information.

Important Contacts

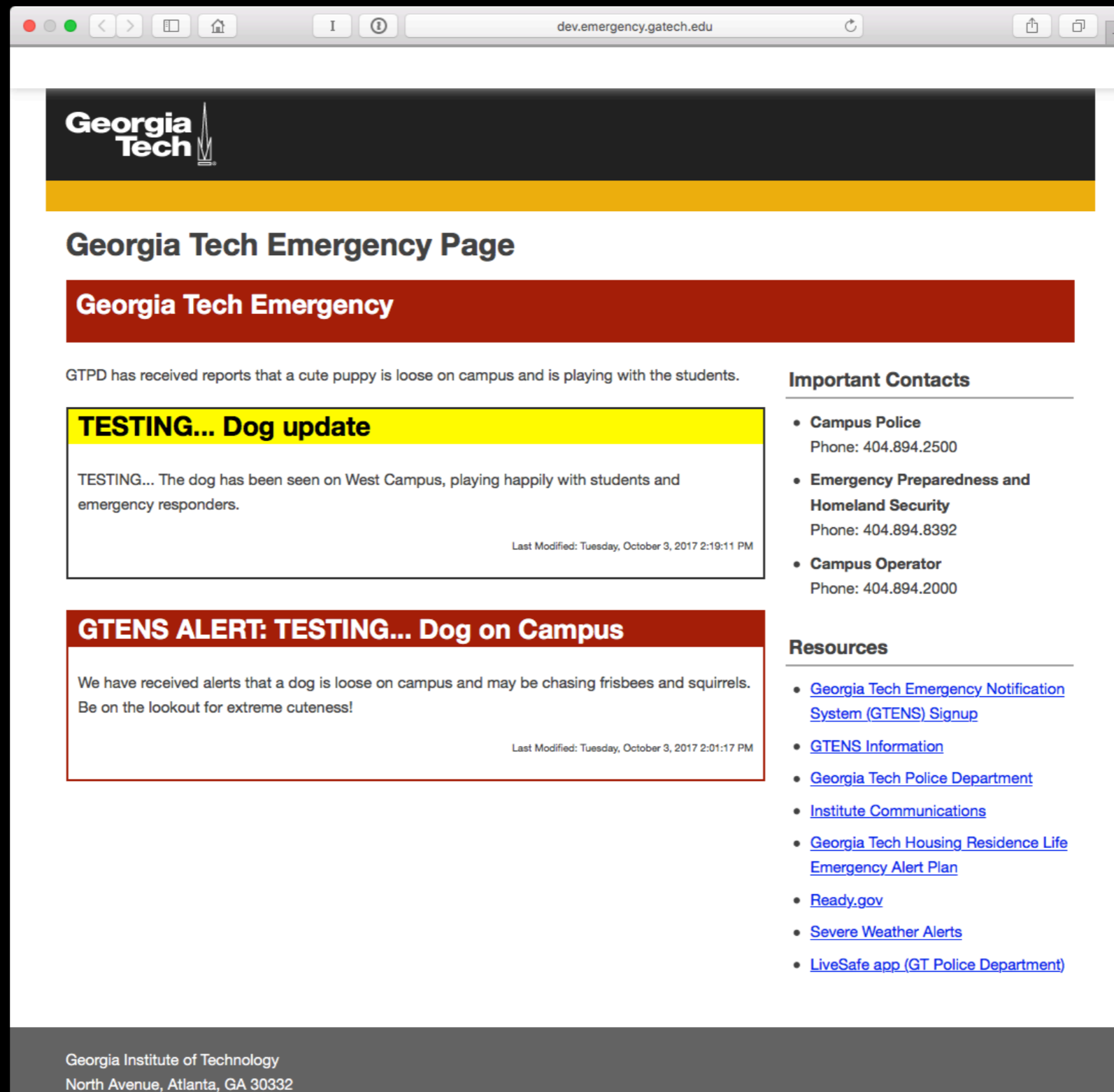
- **Campus Police**
Phone: 404.894.2500
- **Emergency Preparedness and Homeland Security**
Phone: 404.894.8392
- **Campus Operator**
Phone: 404.894.2000

Resources

- [Georgia Tech Emergency Notification System \(GTENS\) Signup](#)
- [GTENS Information](#)
- [Georgia Tech Police Department](#)
- [Institute Communications](#)
- [Georgia Tech Housing Residence Life Emergency Alert Plan](#)
- [Ready.gov](#)
- [Severe Weather Alerts](#)
- [LiveSafe app \(GT Police Department\)](#)

Georgia Institute of Technology
North Avenue, Atlanta, GA 30332

HAVE A PLAN



The screenshot shows a web browser window with the URL `dev.emergency.gatech.edu`. The page features the Georgia Tech logo at the top left. Below the logo is a yellow horizontal bar, followed by the heading "Georgia Tech Emergency Page". A red horizontal bar contains the text "Georgia Tech Emergency". The main content area is divided into two columns. The left column contains a yellow box with the heading "TESTING... Dog update" and a text block stating "TESTING... The dog has been seen on West Campus, playing happily with students and emergency responders." Below this is a red box with the heading "GTENS ALERT: TESTING... Dog on Campus" and a text block stating "We have received alerts that a dog is loose on campus and may be chasing frisbees and squirrels. Be on the lookout for extreme cuteness!". The right column contains a section titled "Important Contacts" with a list of three items: "Campus Police" (Phone: 404.894.2500), "Emergency Preparedness and Homeland Security" (Phone: 404.894.8392), and "Campus Operator" (Phone: 404.894.2000). Below this is a section titled "Resources" with a list of seven links: "Georgia Tech Emergency Notification System (GTENS) Signup", "GTENS Information", "Georgia Tech Police Department", "Institute Communications", "Georgia Tech Housing Residence Life Emergency Alert Plan", "Ready.gov", and "LiveSafe app (GT Police Department)". At the bottom of the page, the text "Georgia Institute of Technology" and "North Avenue, Atlanta, GA 30332" is displayed.

Georgia Institute of Technology
North Avenue, Atlanta, GA 30332

HAVE A PLAN

Georgia Tech

Georgia Tech Emergency Page

The emergency has ended

The emergency is now over. Earlier in the afternoon, GTPD received reports that a cute puppy was loose on campus and playing with the students.

TESTING: Dog returned to owner

TESTING: The owner of the dog has arrived to take the tired pup home.

Last Modified: Tuesday, October 3, 2017 2:45:31 PM

TESTING: Dog now chasing tennis balls

TESTING: The dog, described as a small pug, has now been seen chasing tennis balls on the tennis courts atop Peters Park

Last Modified: Tuesday, October 3, 2017 2:30:54 PM

TESTING... Dog update

TESTING... The dog has been seen on West Campus, playing happily with students and emergency responders.

Last Modified: Tuesday, October 3, 2017 2:19:11 PM

GTENS ALERT: TESTING... Dog on Campus

Important Contacts

- Campus Police**
Phone: 404.894.2500
- Emergency Preparedness and Homeland Security**
Phone: 404.894.8392
- Campus Operator**
Phone: 404.894.2000

Resources

- [Georgia Tech Emergency Notification System \(GTENS\) Signup](#)
- [GTENS Information](#)
- [Georgia Tech Police Department](#)
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- [Ready.gov](#)
- [Severe Weather Alerts](#)
- [LiveSafe app \(GT Police Department\)](#)

HAVE A PLAN

Emergency website communication "states"

- ▶ Normal
 - ↓ automated (the 2am problem)
- ▶ Emergency
- ▶ Post-emergency

HAVE A PLAN

Emergency website communication "states"

- ▶ Normal
- ▶ Emergency
 - ↓ manual
- ▶ Post-emergency

HAVE A PLAN

Emergency website communication "states"

- ▶ Normal
- ▶ Emergency
- ▶ Post-emergency

↓ manual

- ▶ Normal

TEST THE PLAN

Don't wait until an emergency to test. **Test repeatedly.**

- ▶ Involve all partners and go over the whole plan each time.
- ▶ Tabletop exercises vs "live" testing...
- ▶ Test as many categories, channels as feasible.
- ▶ Prepare the test audience ahead of time.
- ▶ Every message should begin with "TESTING" and use **non-threatening text.**
- ▶ **Seek feedback** from campus after test (and real event !)

DON'T LET YOUR SERVER MELT

Fast emergencies place **extreme stress** on web server architectures.

- ▶ Stress in the form of:
 - ▶ Network traffic
 - ▶ DNS
 - ▶ Web Server/Caches
- ▶ All of this made worse during fast emergencies by repeated reloading by users seeking additional updates.

DON'T LET YOUR SERVER MELT

Possible solutions:

- ▶ (Over) provisioning
- ▶ Scale-on-demand locally
- ▶ CDN (but remember, caching is *tricky*)
- ▶ Host or Redirect somewhere else (**off-campus Cloud:**
IaaS/PaaS/SaaS)
- ▶ Make sure that your **publication channel is unaffected by load**

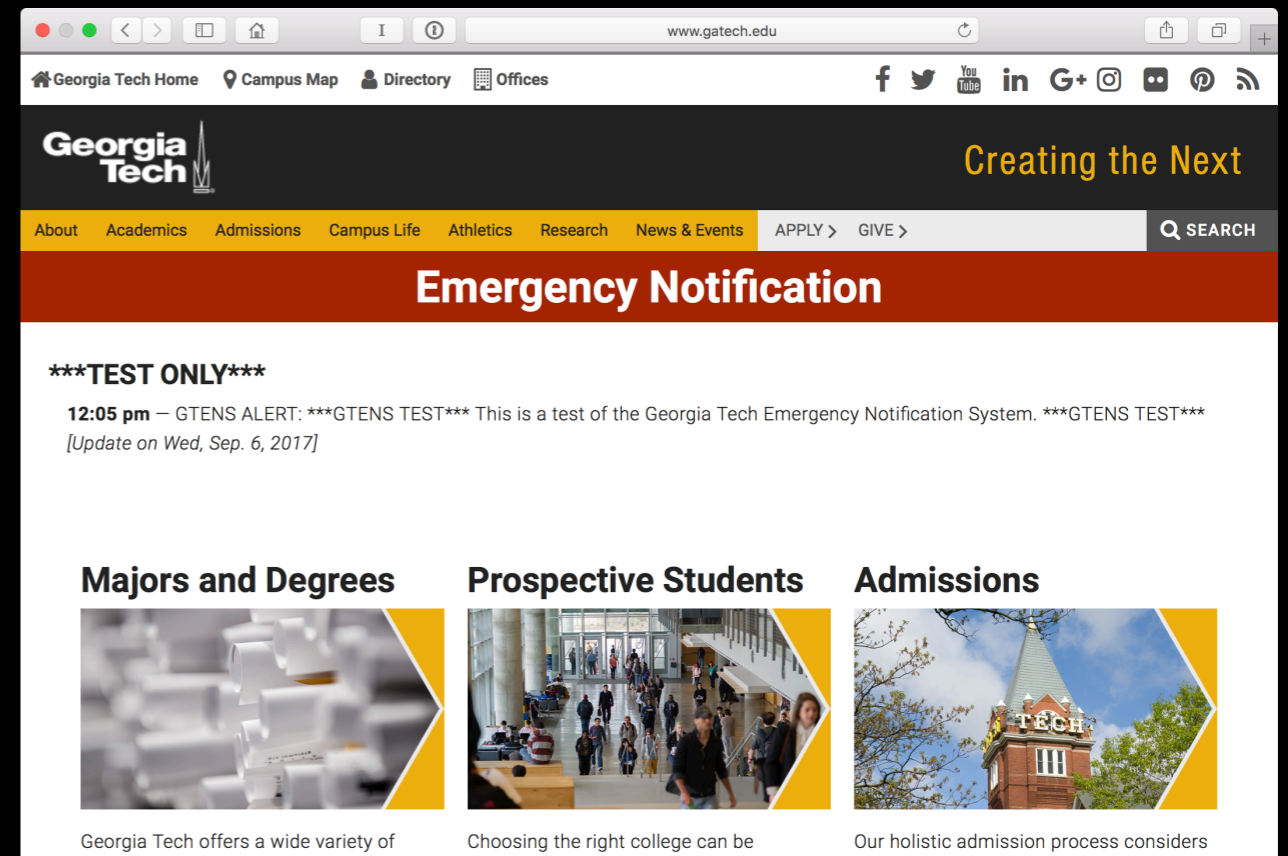
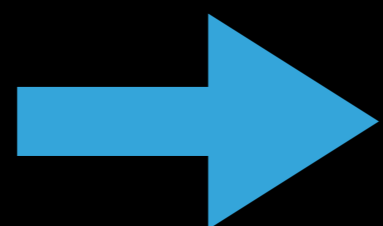
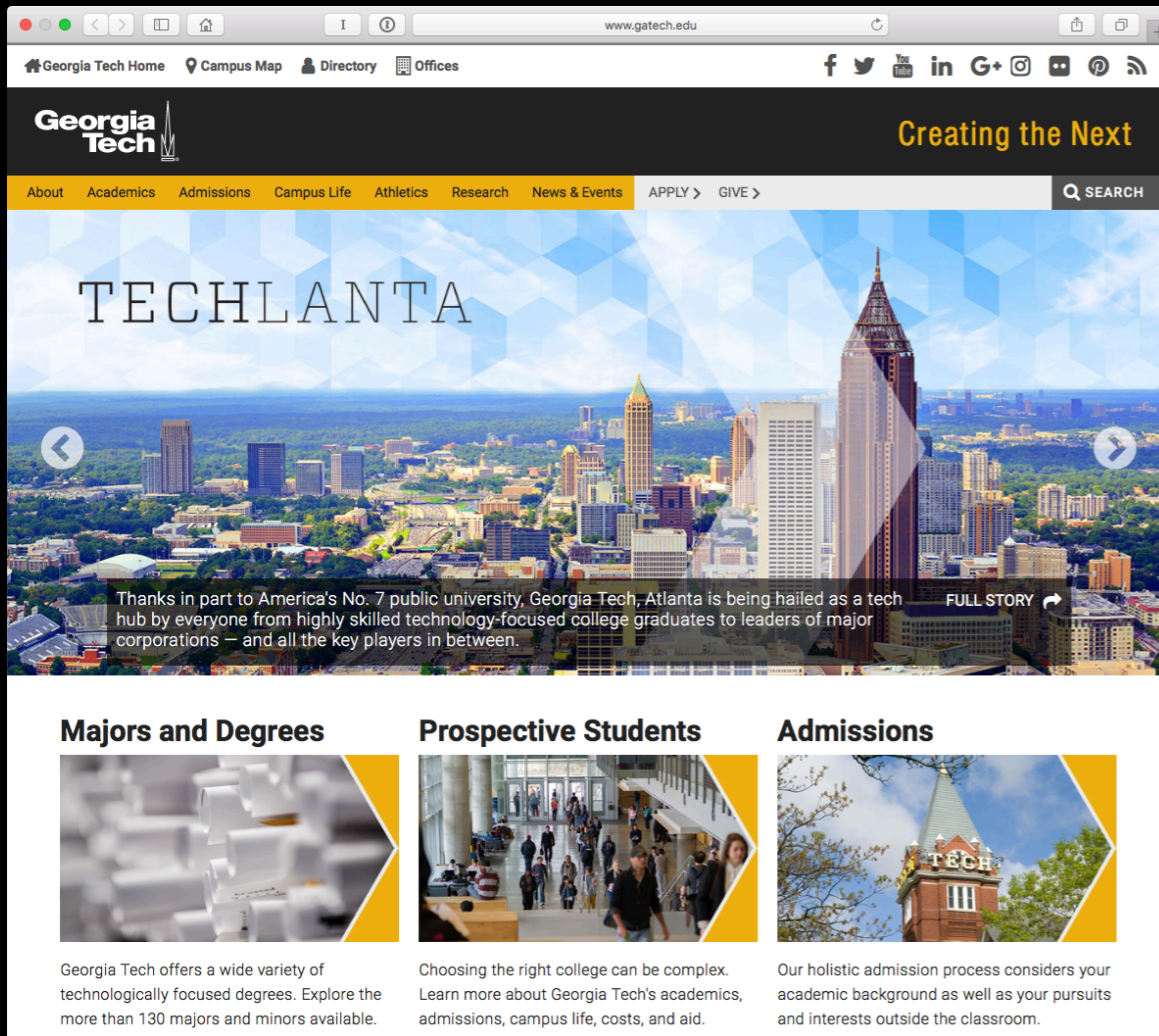
DON'T LET YOUR SERVER MELT

- ▶ Make sure system can run **without relying on any campus resources.**
- ▶ Establish alternate DNS/short URLs
- ▶ Make sure login supports federated and local accounts (with password(s) escrowed *somewhere*)
- ▶ **Log everything**, creating an audit trail for who said what, when

DON'T LET YOUR SERVER MELT (GEORGIA TECH'S PLAN)

- ▶ Slow and Fast emergency posts fed from push vendor to main campus website (via RSS feed)
- ▶ **Slow emergency:** posts displayed in place of home page's main carousel

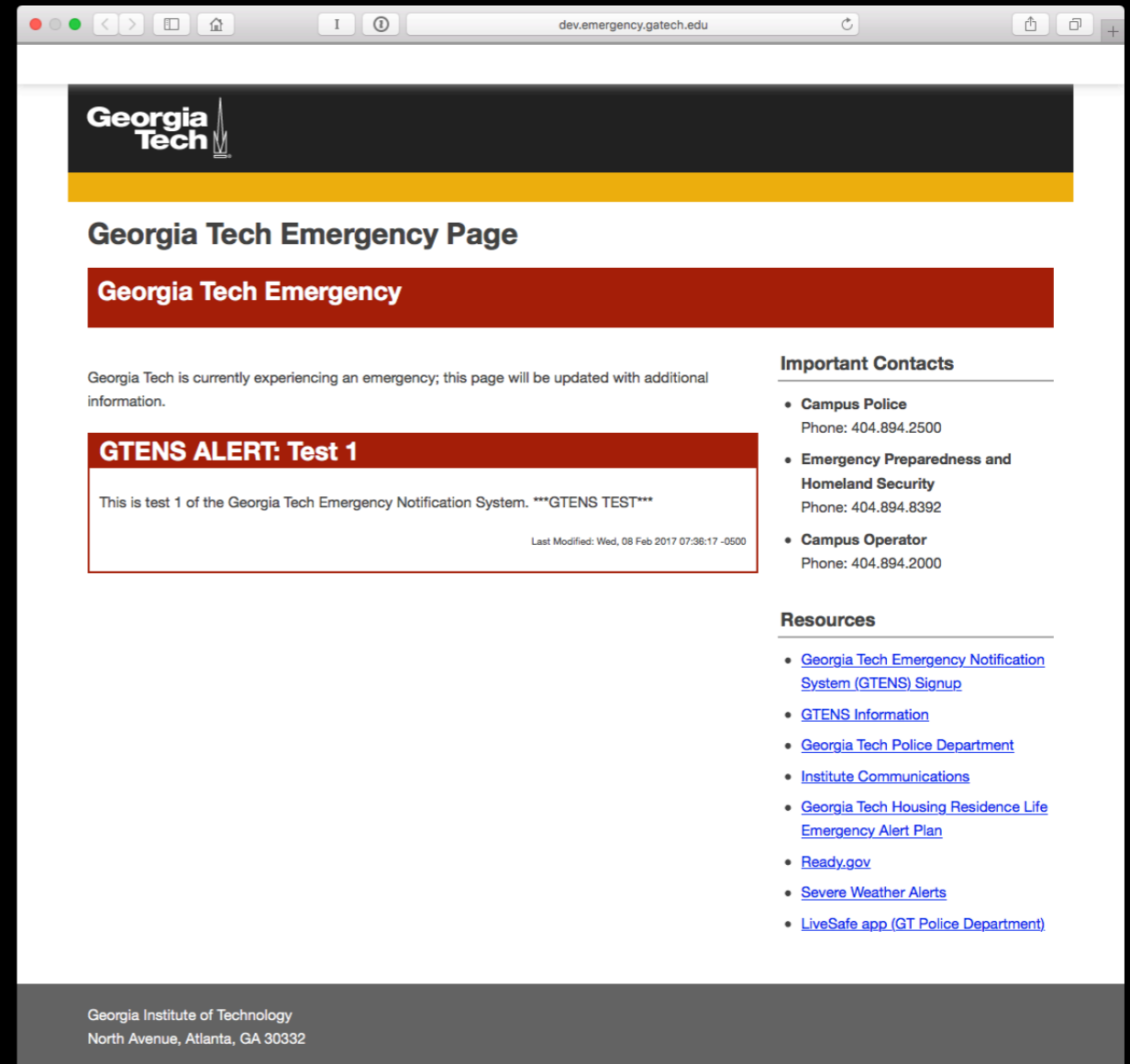
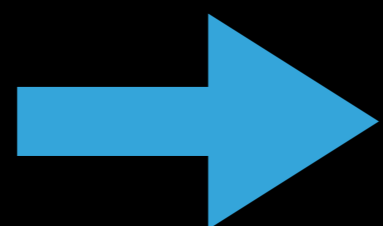
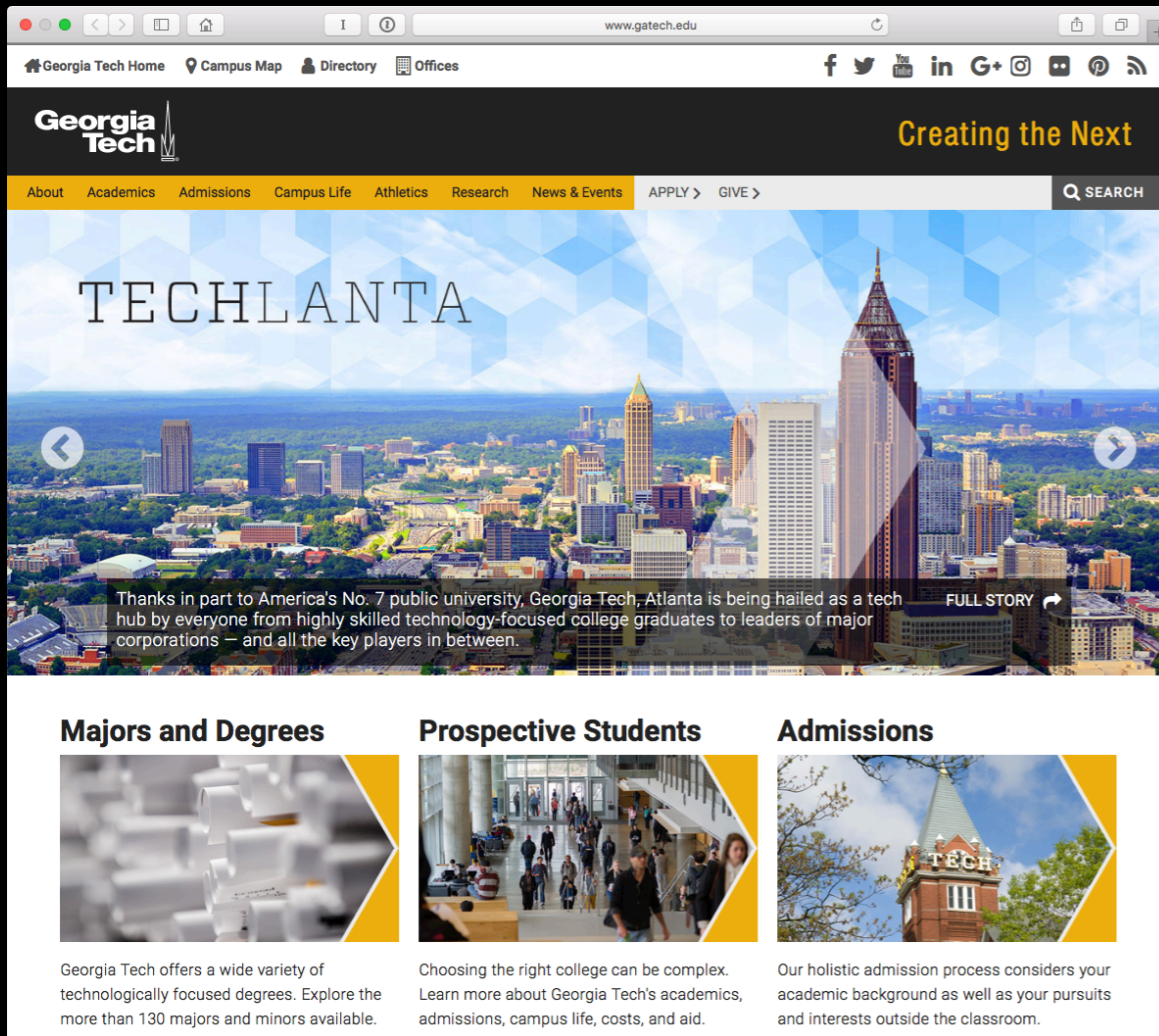
DON'T LET YOUR SERVER MELT (GEORGIA TECH'S PLAN)



DON'T LET YOUR SERVER MELT (GEORGIA TECH'S PLAN)

- ▶ **Fast emergency:** redirect to site hosted on Amazon Web Services (AWS), triggered by tag in RSS feed

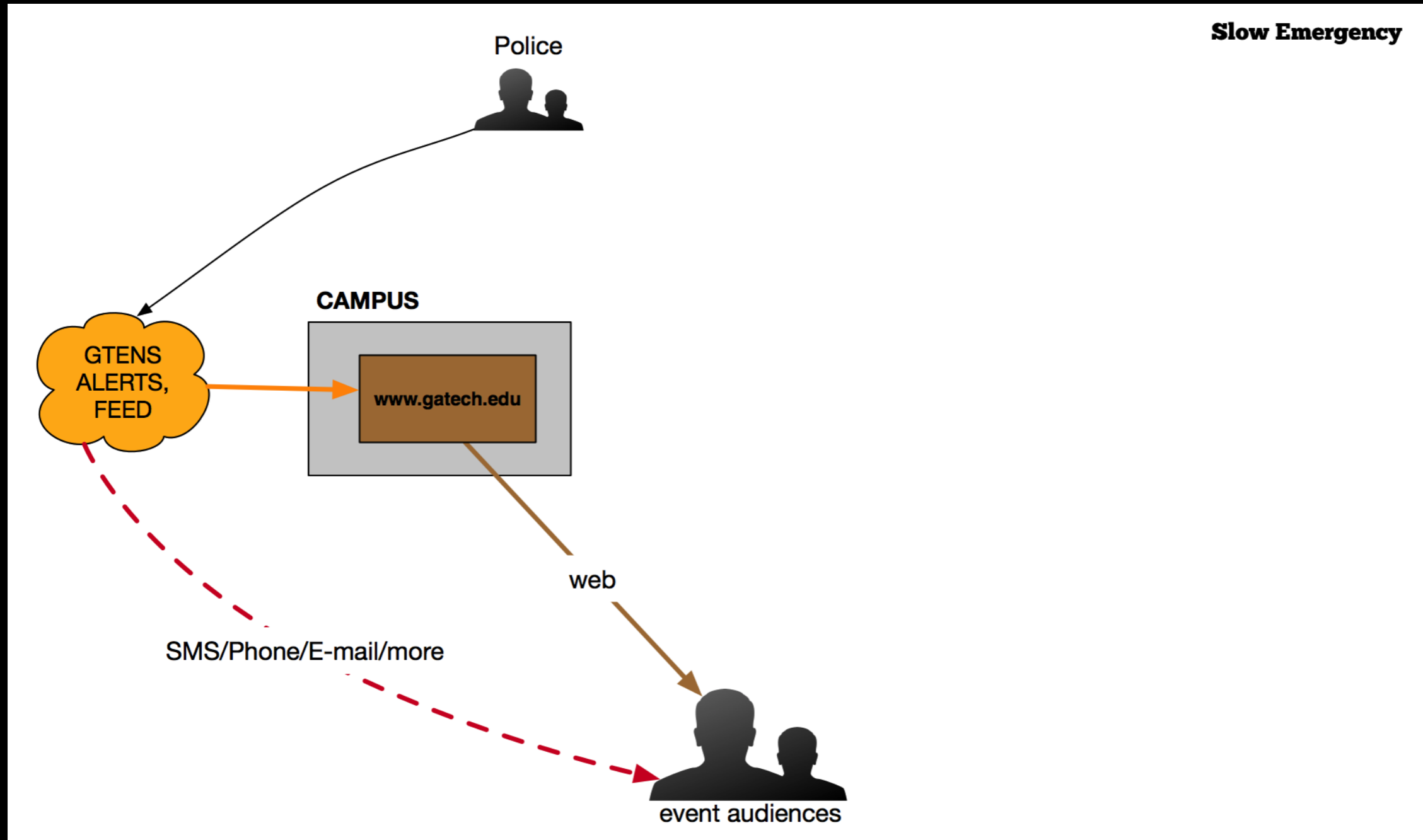
DON'T LET YOUR SERVER MELT (GEORGIA TECH'S PLAN)



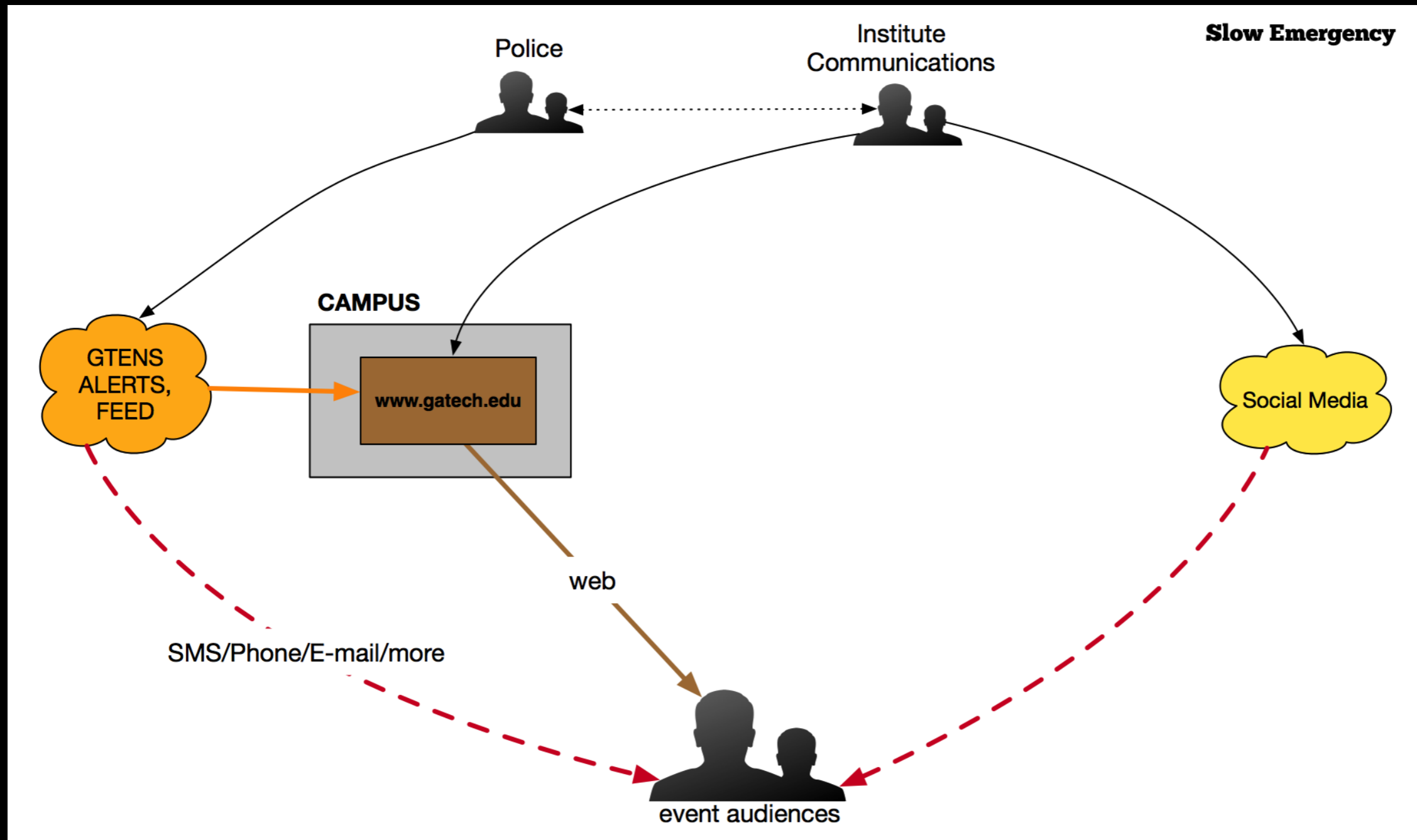
DON'T LET YOUR SERVER MELT (GEORGIA TECH'S PLAN)

- ▶ **AWS S3 web bucket** serves a static page, images, css, etc.
- ▶ Load-balanced set of EC2 VMs admin console web app that is used to editorialize the feed items
- ▶ Auditing via logging, S3 versioning
- ▶ Super affordable: \$16-\$50/month stand-by, ~\$30 for a three-hour, 30k audience emergency (reloading every 20 seconds).

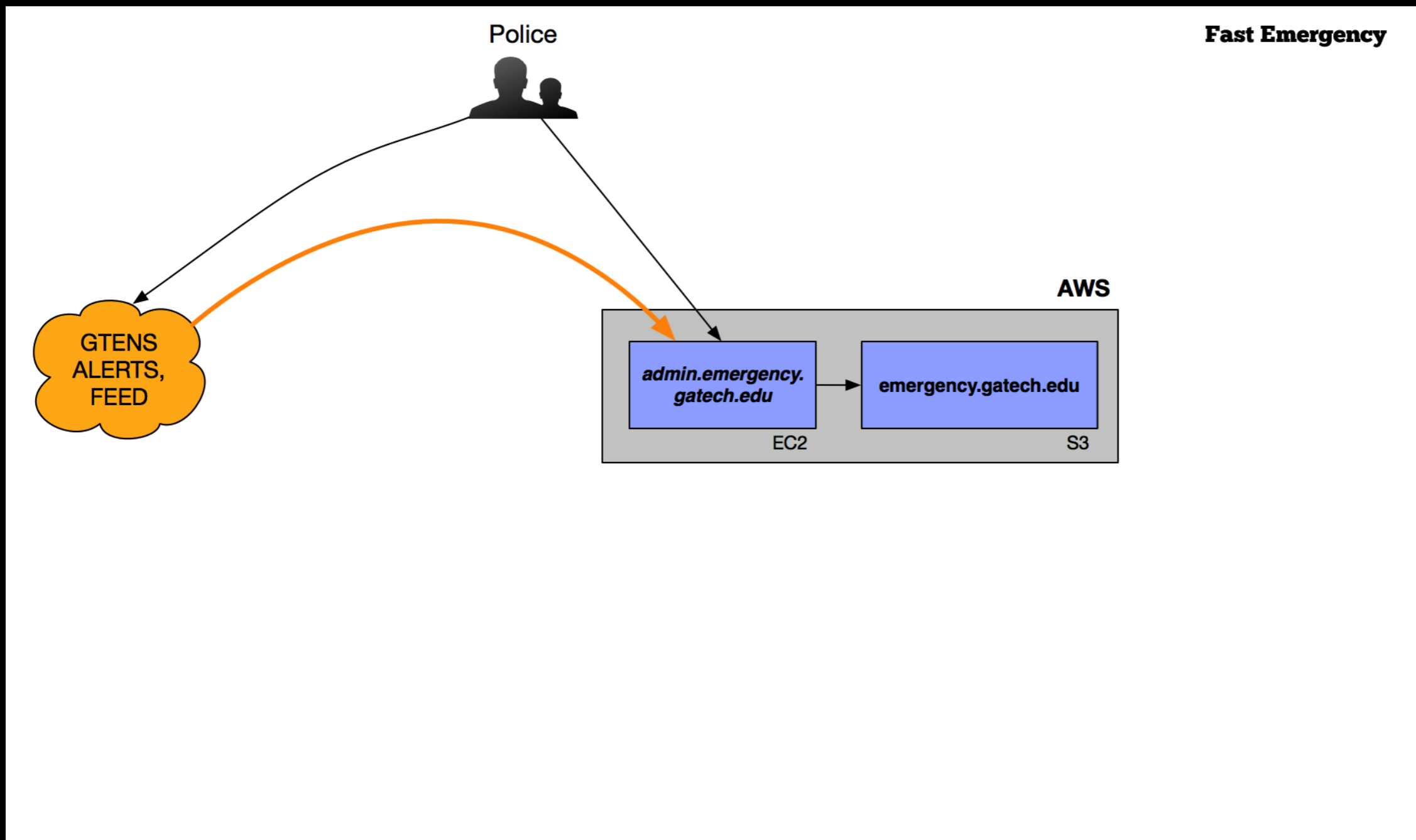
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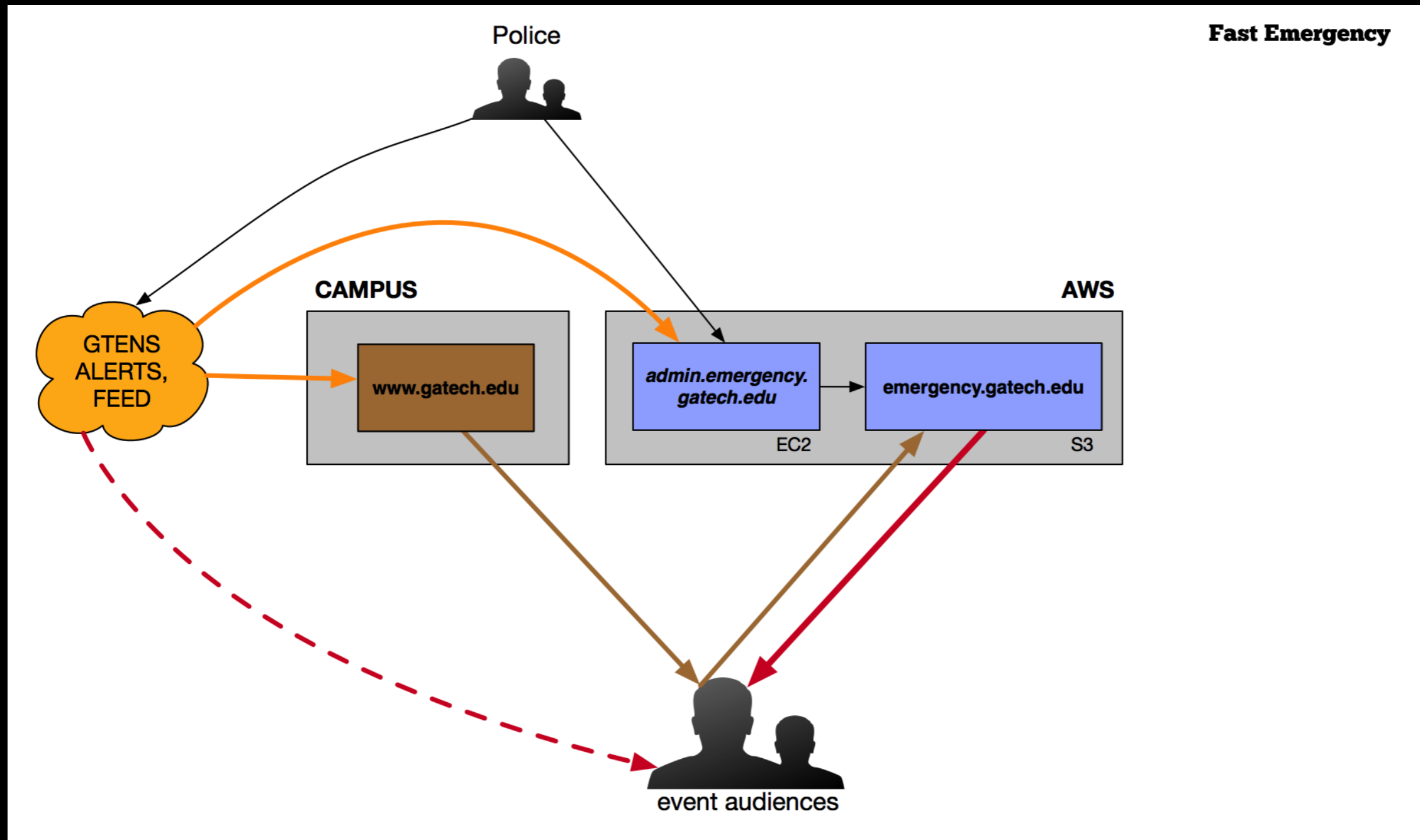
DON'T LET YOUR SERVER MELT (GEORGIA TECH'S PLAN)



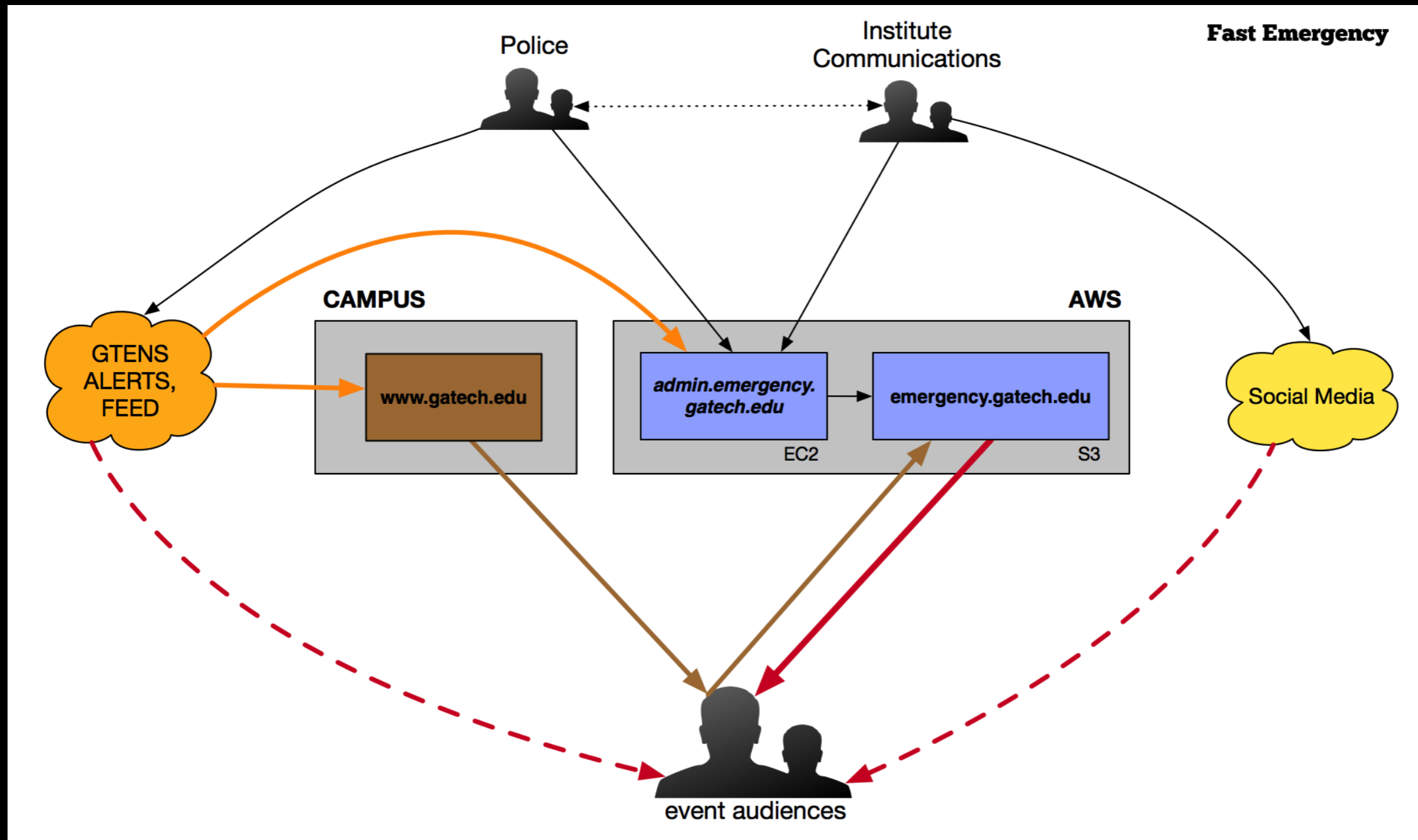
DON'T LET YOUR SERVER MELT (GEORGIA TECH'S PLAN)



DON'T LET YOUR SERVER MELT (GEORGIA TECH'S PLAN)



DON'T LET YOUR SERVER MELT (GEORGIA TECH'S PLAN)



SUMMARY

1. Have A Plan
2. Test The Plan
3. Don't Let Your Server Melt

Q & A

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<http://mirage.oit.gatech.edu/highedweb2017>