





HOW DRUPAL SECURED THE DEFENSE SECTOR

Seth Gregory, Drupal Lead at NavigationArts
Ted Slesinski, Senior Drupal Dev at NavigationArts

DRUPAL SHOWCASE // [NAVIGATIONARTS.COM](https://navigationarts.com)



HOW <REDACTED> SECURED THE <REDACTED>

Seth Gregory, [REDACTED] at [REDACTED]
Ted Slesinski, [REDACTED] at [REDACTED]



The Client

The Solution

The Challenges



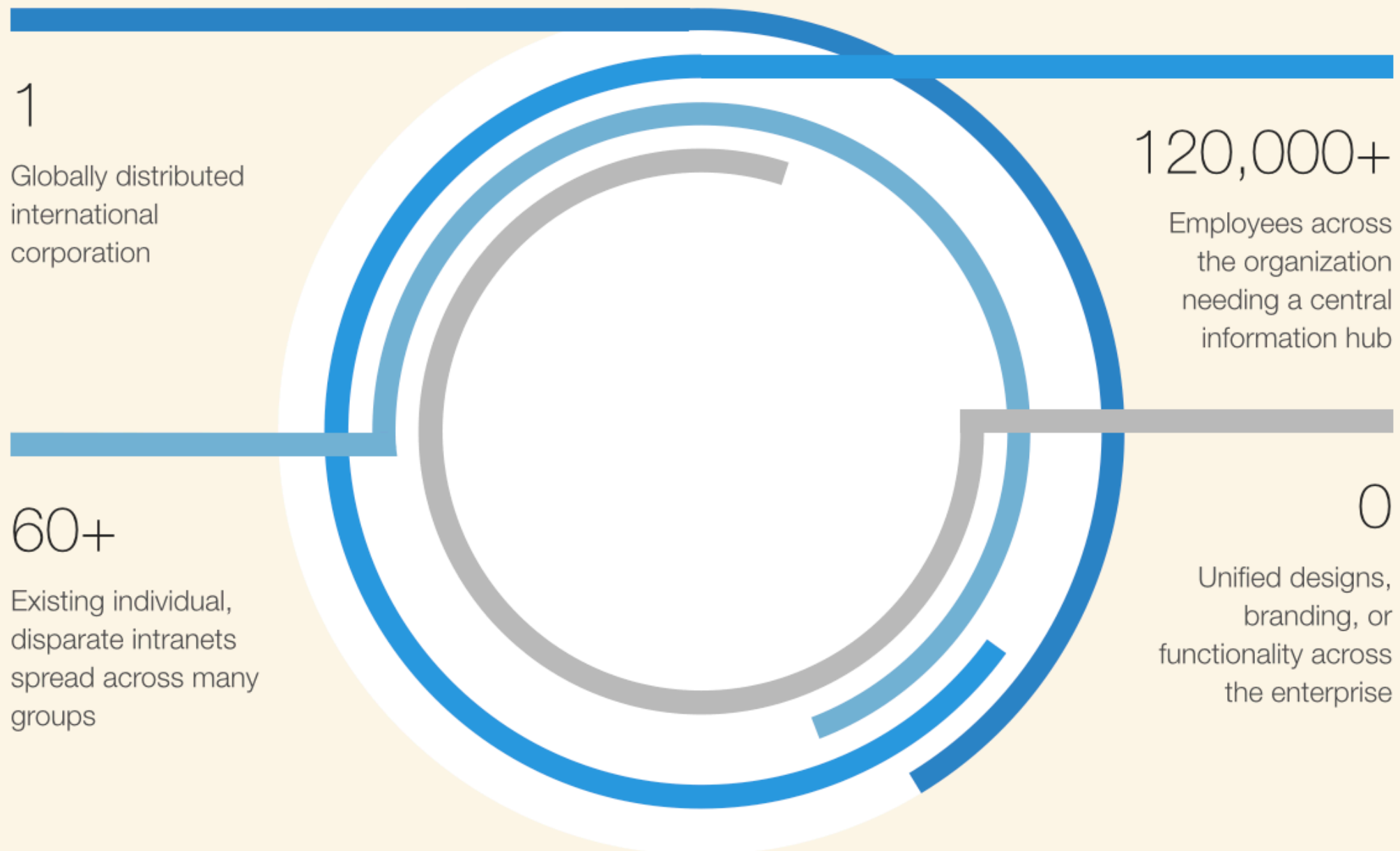
THE CLIENT



- Defense contractor
- Massive, multinational corporation
- 120,000+ global employees
- Many discrete business units
- Each business unit with its own intranet – often more than one
- No way to easily share information across all individual business units



WHY CHANGE WAS NEEDED





THE SOLUTION



ONE INTRANET



... TO RULE THEM ALL



STATED OBJECTIVES

facilitate
**internal communication &
employee engagement**

improve
productivity

reflect and confirm
corporate culture

reduce
information silos

assist in
**knowledge sharing
& management**



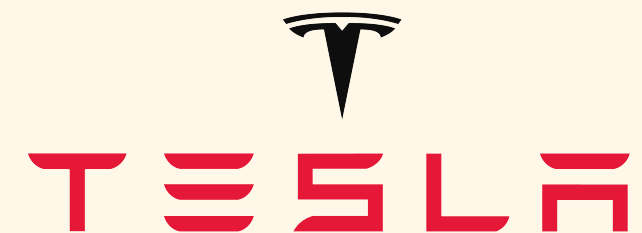
CMS SELECTION

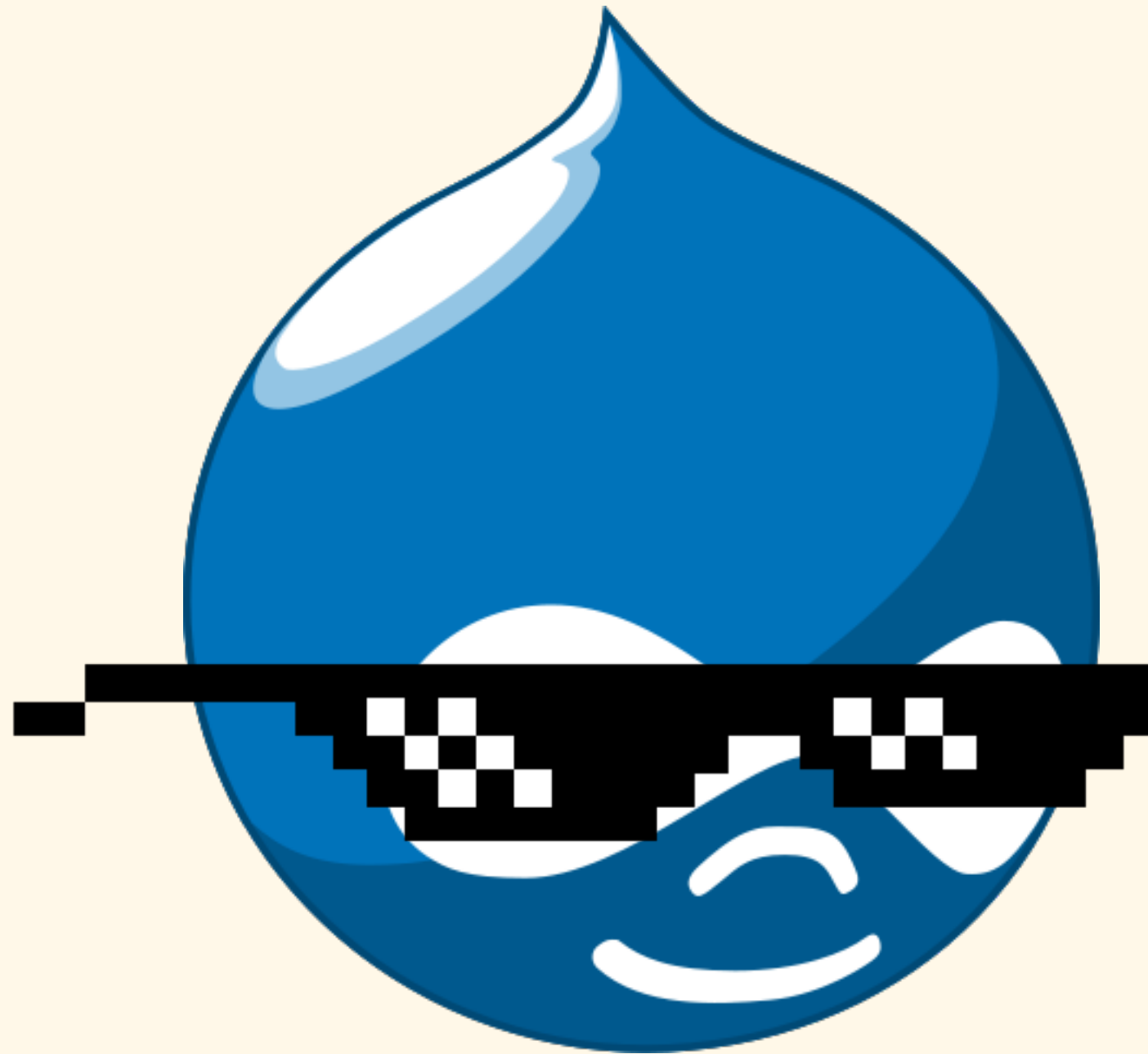
- Drupal was a not initially a given!
- Heavy existing investment in Sharepoint
- Active relationship with Adobe
- Very little prior exposure to Drupal
- Skeptical of its ability to drive enterprise intranet
- Concerns with security – is it safe?



HOW DRUPAL “SECURED” IT

- Proven and growing presence in the enterprise space
- Had to convince security team Drupal was secure
- All software, modules/versions vetted and approved
- Held many rounds of demos with stakeholders across organization to showcase Drupal’s abilities







THE CONTENT

- Many rounds of design/IA and lots of client discussion
- Distillation of content types to accurately represent all content from all business areas
- Content inter-relation and categorization
- Personalized content panes on homepage
- One-click functionality (add to calendar, etc.)



THE PRESENTATION

- Personal information presented to employees
- Ability to view other business areas
- Collections of media
- Panels!



PANELS-DRIVEN

- Context-based panes
- Custom panel layouts
- HTML5 markup



FRONTEND

- Custom responsive theme
- Stylesheets preprocessed with SASS and Compass
- Designed for modern browsers and legacy browsers
- View modes used for reusable displays of entities
- Section 508 compliance



THE CHALLENGES

THE CHALLENGES

- Legacy Support
- Servers/Network
- Performance
- Authentication
- Extranet

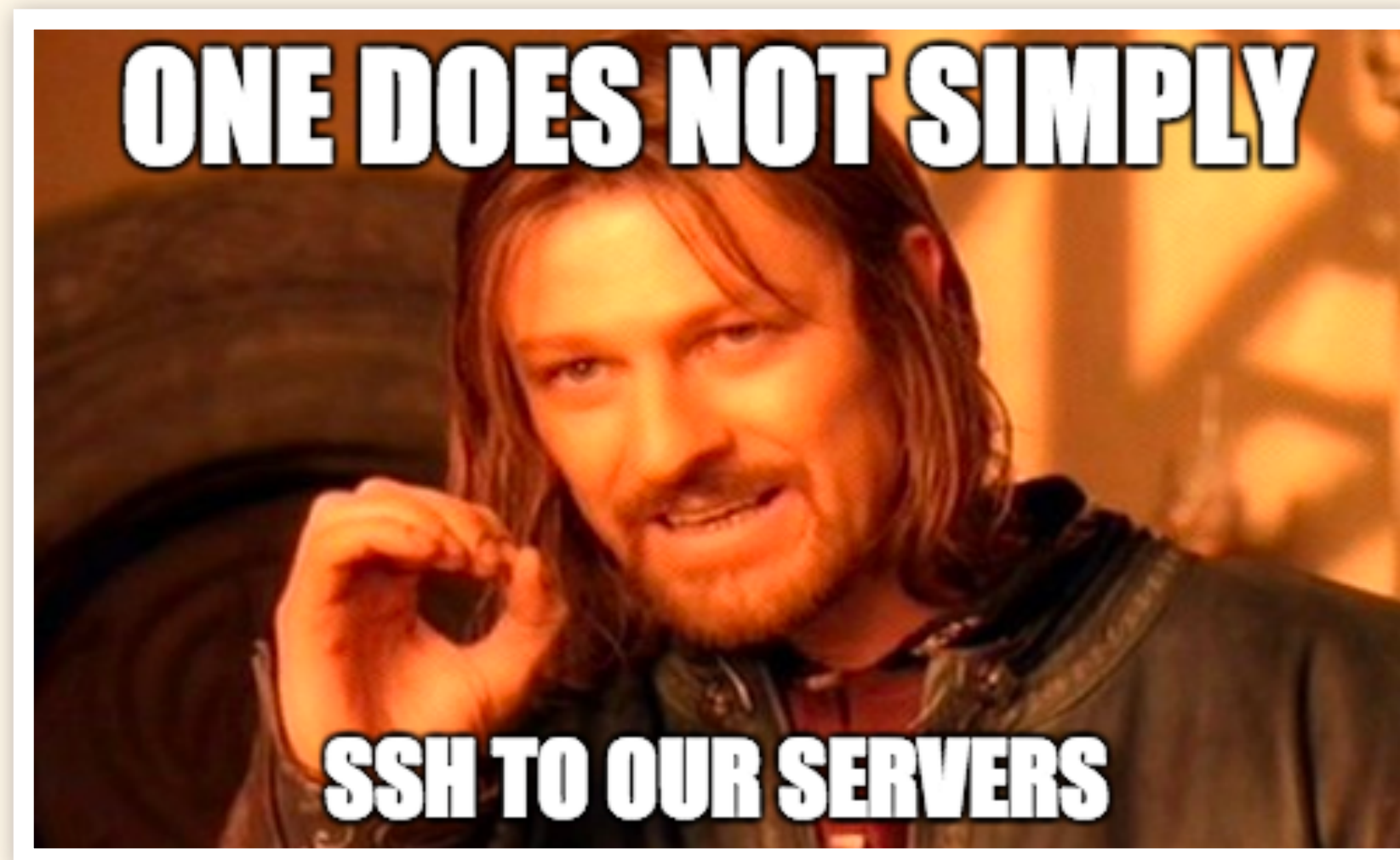




LEGACY FRONTEND SUPPORT

- Site designed for modern browsers
- Default browser was IE8
- No control over their ability to upgrade

SECURE SERVER ENVIRONMENT



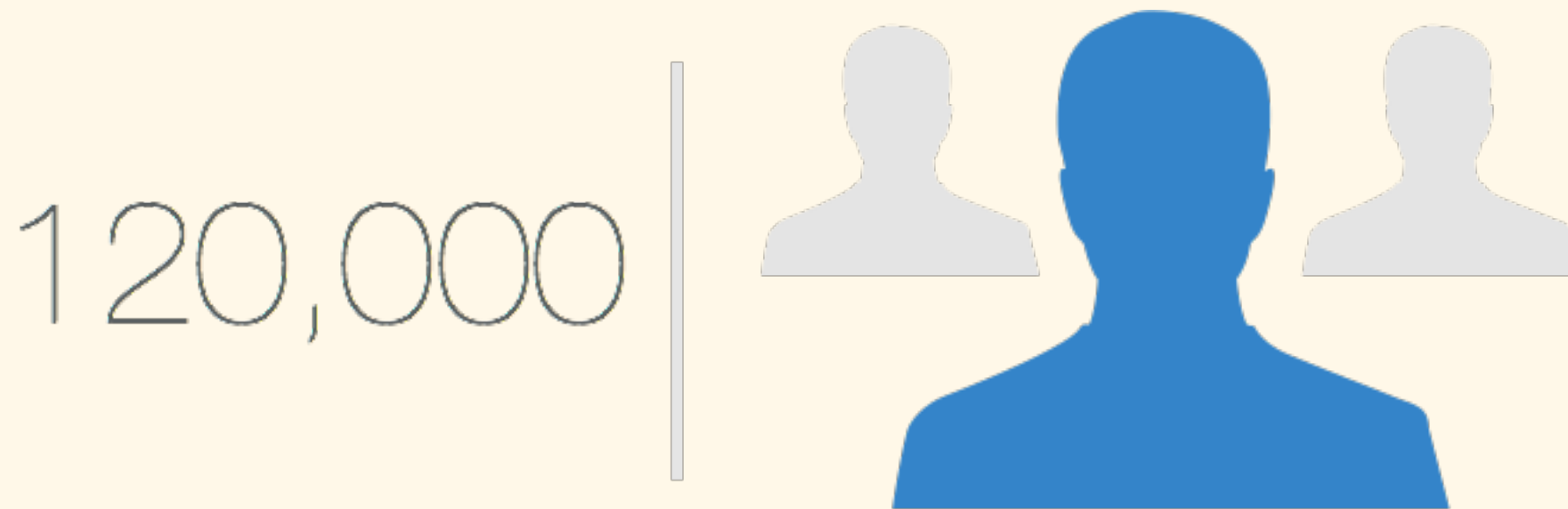


SECURE SERVER ENVIRONMENT

- Access to servers heavily restricted (laptop, VPN, etc)
- Most development done in NavArts environments
- Install profiles with migrate scripts
- Some things do require testing in client environment (federated login, AD attributes, proxy+firewall rules)



PERFORMANCE CONCERNS



- All authenticated user traffic
- Full page caching unavailable
- Large concurrent “login waves”



PERFORMANCE TUNING

- Dedicated MySQL server
- Load-balanced web nodes
- Distributed Memcache k/v store
- Panels Hash Cache
- Search API (Solr) backed views



SEARCH API

- Most content needs to be searchable
- Heavy reliance on faceted filtering of content
- Many of the site's views rely on Search API
- Solr index relieves some pressure from MySQL

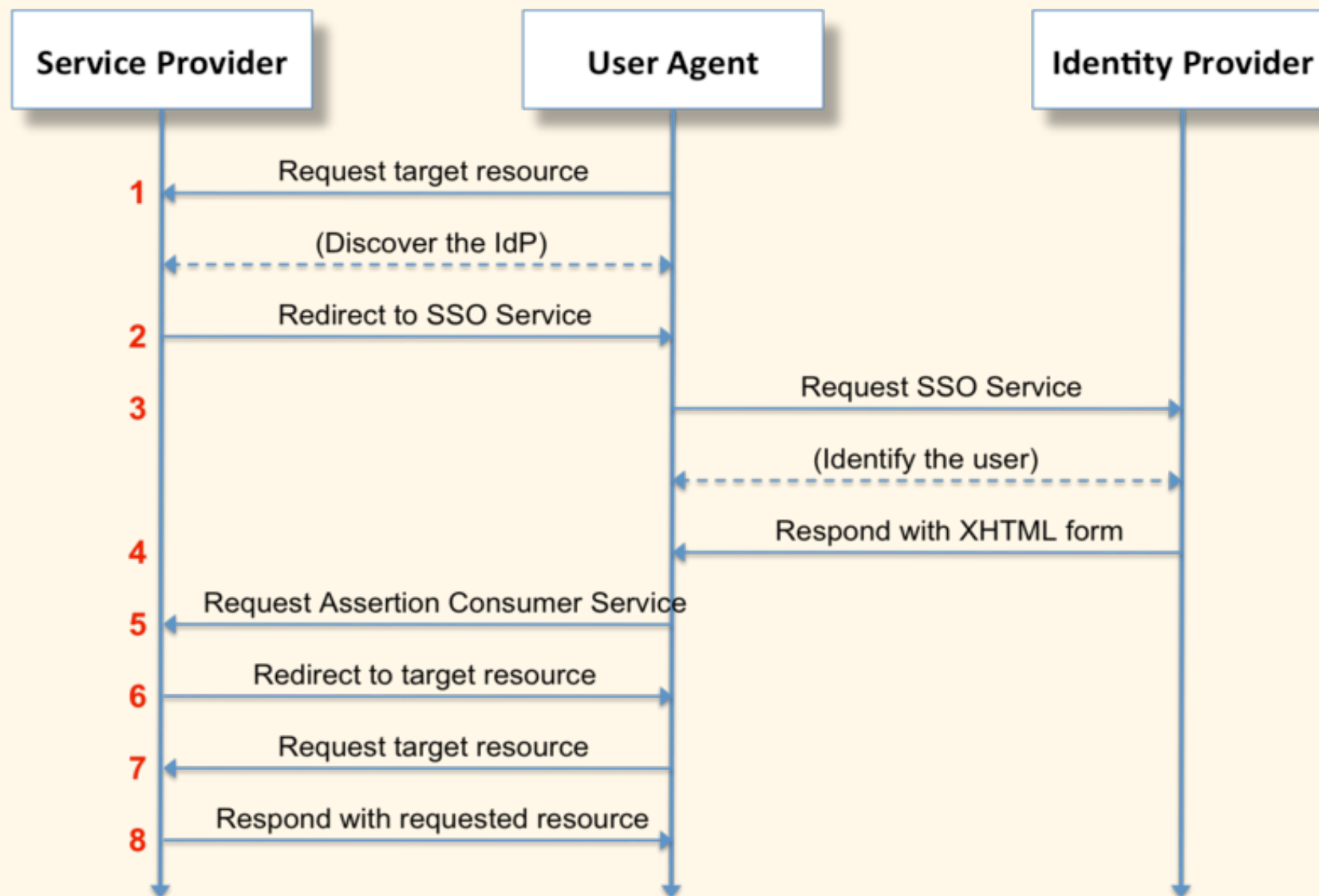




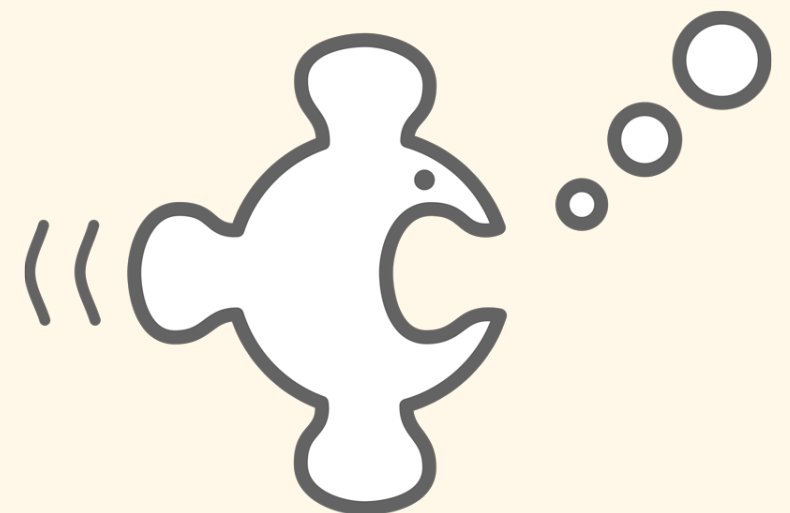
ADFS/SIMPLESAML INTEGRATION

- No separate Drupal user credentials
- Claims-based authentication
- Pre- or automatically provisioned accounts
- Personalization data from Active Directory
- Integrated Windows Authentication
- Low barrier to entry - don't make me think!

ADFS/SIMPLESAML INTEGRATION




Windows Server®
Active Directory





EXTRANET

- Late-breaking requirement
- Separate destination for contractors, etc.



EXTRANET REQUIREMENTS

- Content from intranet available “in real-time”
- Proprietary intranet content NOT accessible
- Separate user base
- Complete system and network separation
- Bi-directional sync?

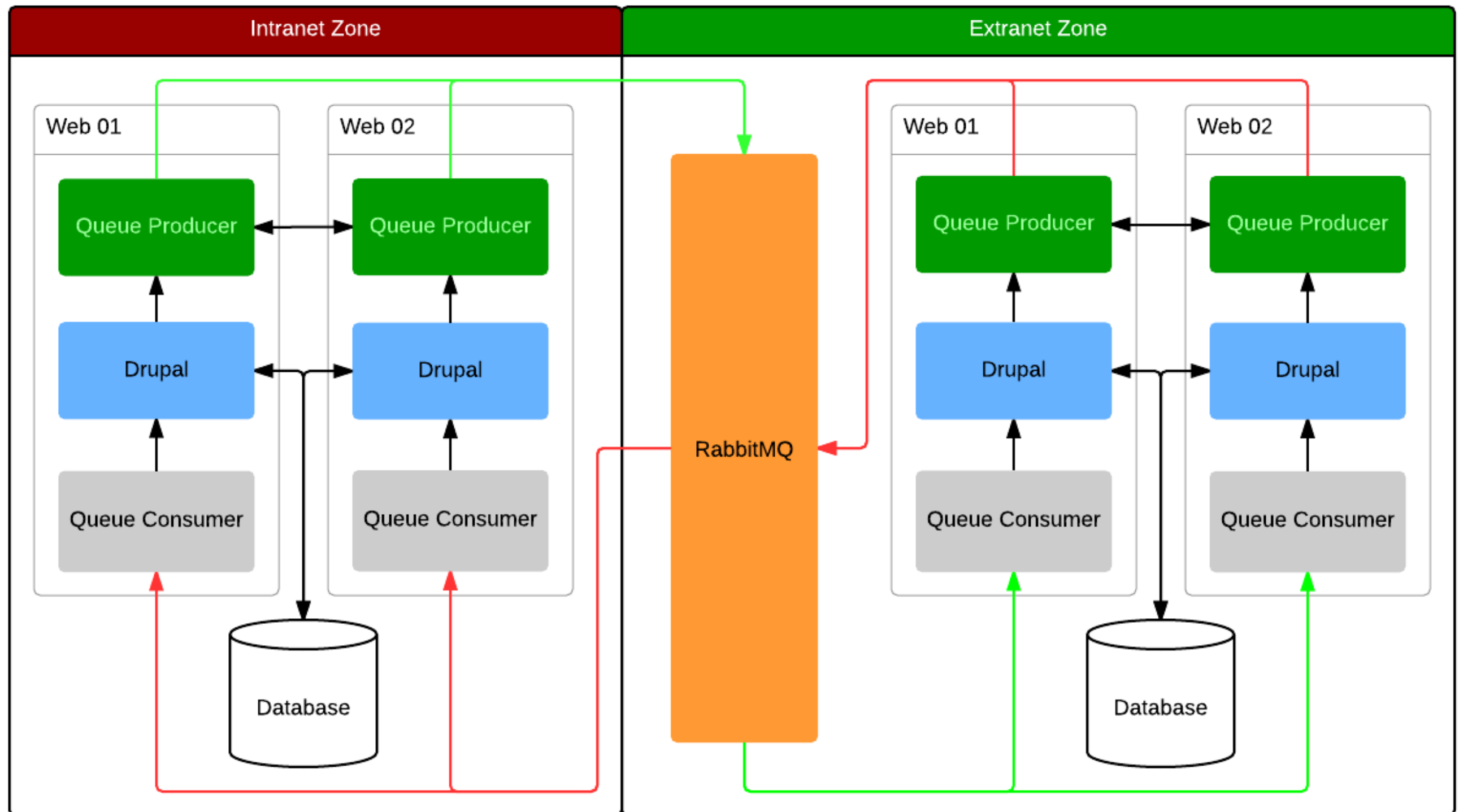




EXTRANET SYNC

- How can we make this work?
- Intranet as system of entry
- Custom Services endpoints
- Message queueing
- Background processes

DRUPALCON ★ LOS ANGELES





EXTRANET SYNC

Entity Action	Old Value	New Value	API Action
Insert	--	UNRESTRICTED	PUT
Insert	--	PROPRIETARY	--
Update	UNRESTRICTED	UNRESTRICTED	PUT
Update	UNRESTRICTED	PROPRIETARY	DELETE
Update	PROPRIETARY	UNRESTRICTED	PUT
Update	PROPRIETARY	PROPRIETARY	DELETE *
Delete	UNRESTRICTED	UNRESTRICTED	DELETE
Delete	UNRESTRICTED	PROPRIETARY	DELETE
Delete	PROPRIETARY	UNRESTRICTED	DELETE *
Delete	PROPRIETARY	PROPRIETARY	DELETE *



SYNCED DATA PREP

- Ensure not marked as proprietary
- Remove Workbench state & schedules
- Send “delete” if unpublished
- Set author to anonymous user
- Encode the entity as JSON
- rsync file if necessary



COMMENT SYNC

- Comments sync bi-directionally
- Tricky because of separate user base
- Synced comments owned by anonymous
- An additional field on comments added to hold user data to be displayed

BACKGROUND PROCESSES

```

Background Process Info
=====
Sync BGPs are ENABLED

Background processes report they are running.
(heartbeat interval is 300 seconds.)

INTRANET: Currently 0 items in the queue

process      hbeat      pid
-----
sync_listener 77s        57330
ack_listener  77s        55153
aq_processor  69s        57449

UID      PID  PPID  C  STIME TTY      TIME CMD
www-data 57330 54811 0 18:34 ?      00:00:03 /usr/sbin/apache2 -k start
www-data 55153 54811 0 17:31 ?      00:00:18 /usr/sbin/apache2 -k start
www-data 57449 54811 0 18:41 ?      00:00:16 /usr/sbin/apache2 -k start
  
```




AND THE RESULT?

- Launched to praise across the organization
- VP of Communications: “A home run.”
- Unified communications platform
- Greatly simplified experience for employees
- Only the first step; much excitement for the future of the platform and enhancements



QUESTIONS?



THANK YOU!

Seth Gregory (@sethgregory)

Drupal Practice Lead

sgregory@navigationarts.com

Ted Slesinski (@helloteds)

Senior Drupal Developer

tslesinski@navigationarts.com



Interested in learning more? Give us a call at (703) 584-8935

www.navigationarts.com