Lessons from the past for the future

BOSCH, DUTCH GUILD AND MEDIANET VLAANDEREN

Julian Carro
EMEA System Solution Account Director
AUDINATE

Visionary companies push the technology forward, standards keep them pushing

Telegraph 1830s

We get beeps, that's enough to send a message

Bell

Telephone 1870s

We can hear a voice, that's enough

Television 1920s

We can see and hear

Lucent

Data Networks 1920s

We can send instructions to a machine

Nortel

Arpanet 1960s

We can send instructions to other people's machines

VOIP introduced 1990s

VOIP, not on my network!

Cisco

VOIP overtakes analogue and digital handsets in mid 2000s

Copyright 2017 Audinate Pty Ltd. All rights reserved

There have been many AOIP standards...

Cobranet

Ravenna

Mediornet

ADAT

Ethersound

Soundgrid

Livewire

Supermac

QLAN

Dante

Optocore

HyperMac

Copyright 2017 Audinate Pty Ltd. All rights reserved

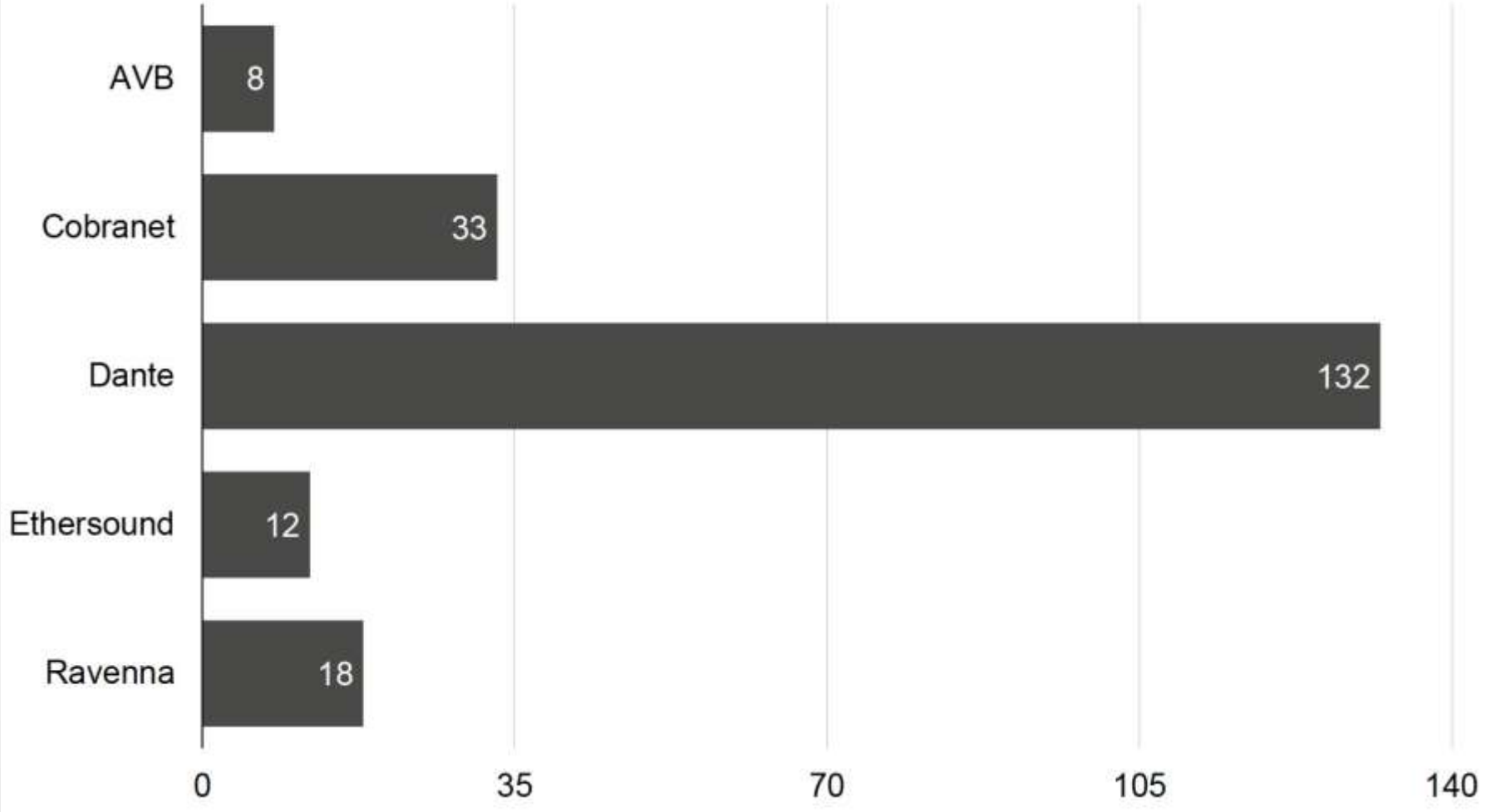
How many can claim the following…

- Tens of thousands of installations
- Standards based architecture, DiffServ, QoS, DHCP, DNS etc.
- Proven connection management and discovery
- Deterministic latency, user selectable
- AN ENVIABLE ECO SYSTEM
  - 380 OEM manufacturers ….. provides user choice
  - Over 1200 available products …. provides user choice
- Dante Just Works!!

Copyright 2017 Audinate Pty Ltd. All rights reserved

Manufacturer Ecosystem Activity

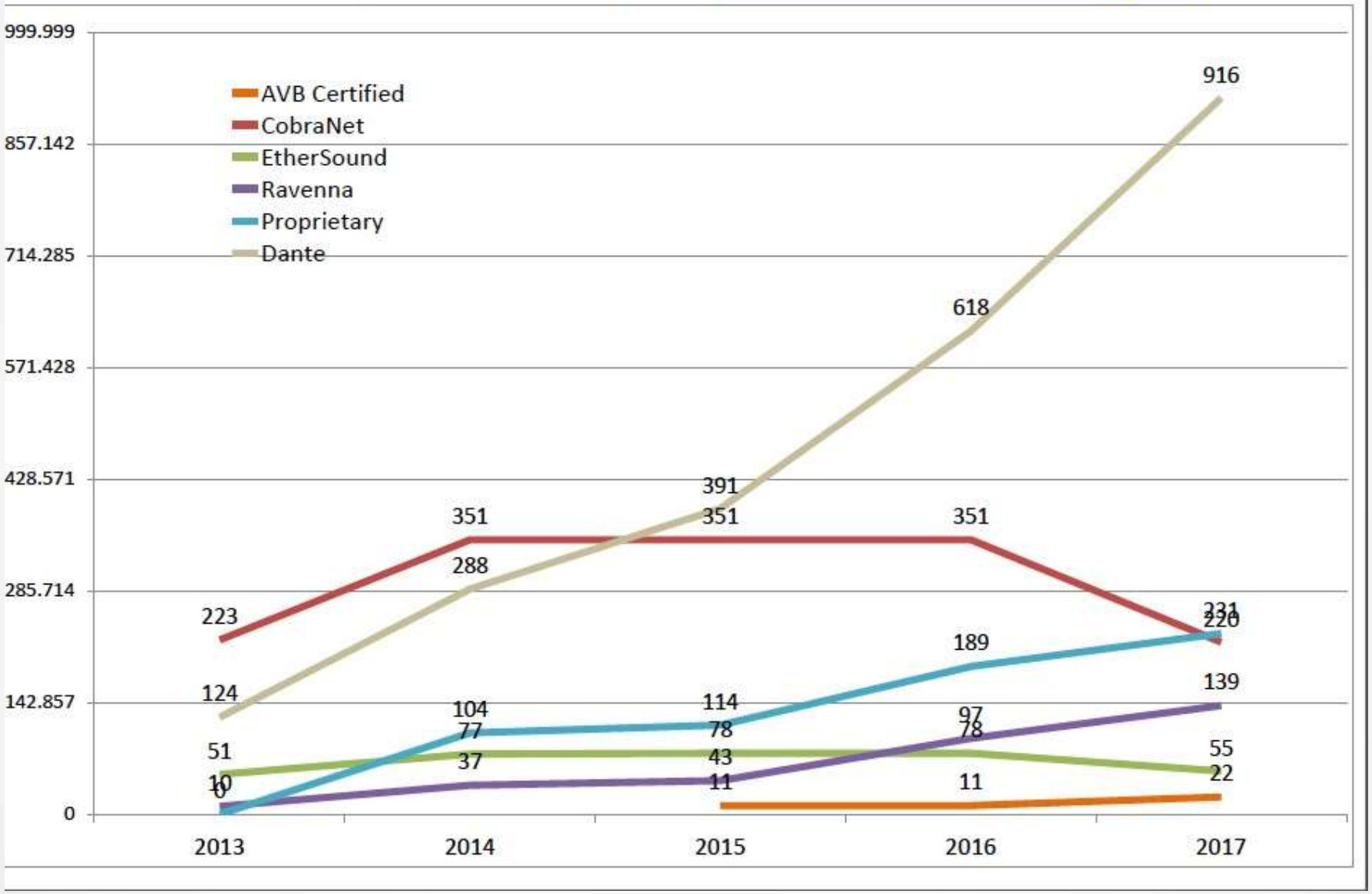
How many manufacturers shipping for each protocol?



Copyright 2017 Audinate Pty Ltd. All rights reserved

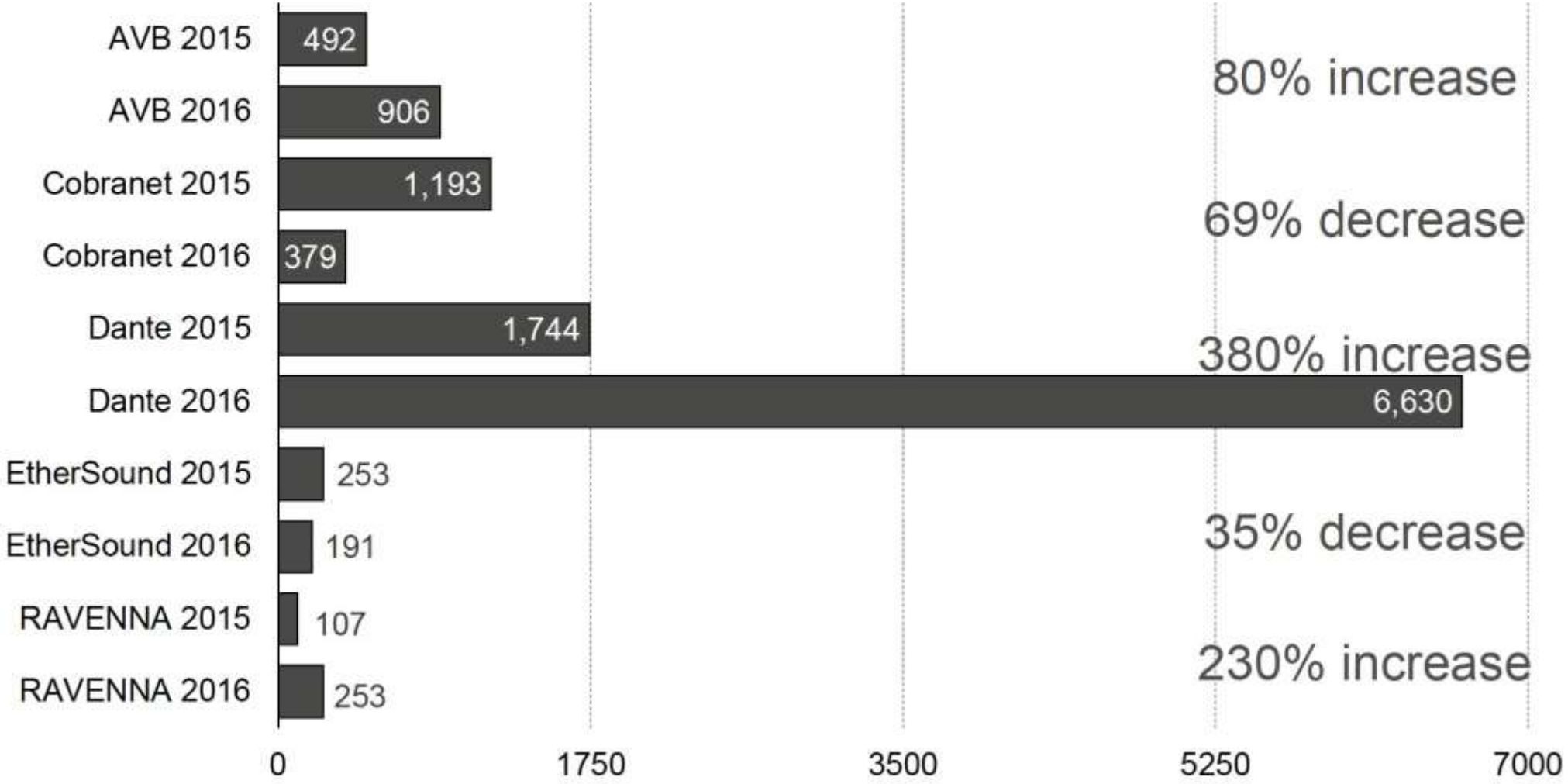
Products

For explanation go to www.rhconsulting.eu



Copyright 2017 Audinate Pty Ltd. All rights reserved

How many projects using each protocol?



Copyright 2017 Audinate Pty Ltd. All rights reserved

Audinate brings you the next step IP Digital Audio Convergence with IT

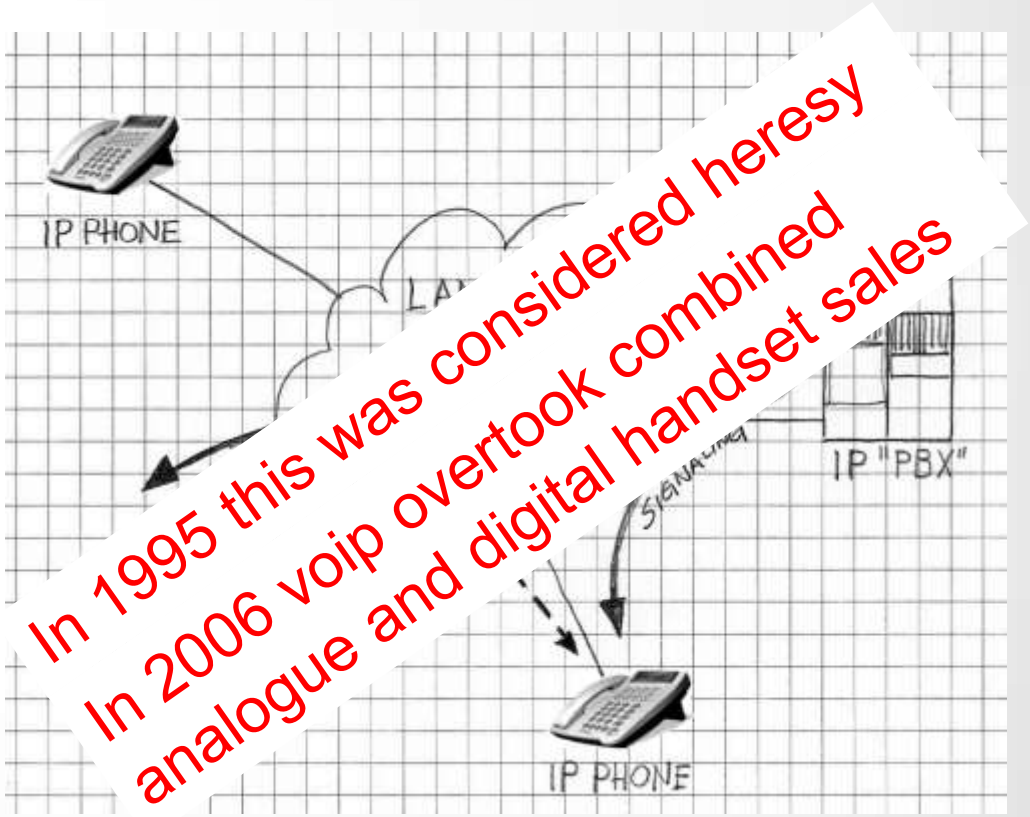
Same network

Same cables

Same switches

Same concerns about security, control, monitoring

Same story, a story as old as time …



Copyright 2017 Audinate Pty Ltd. All rights reserved

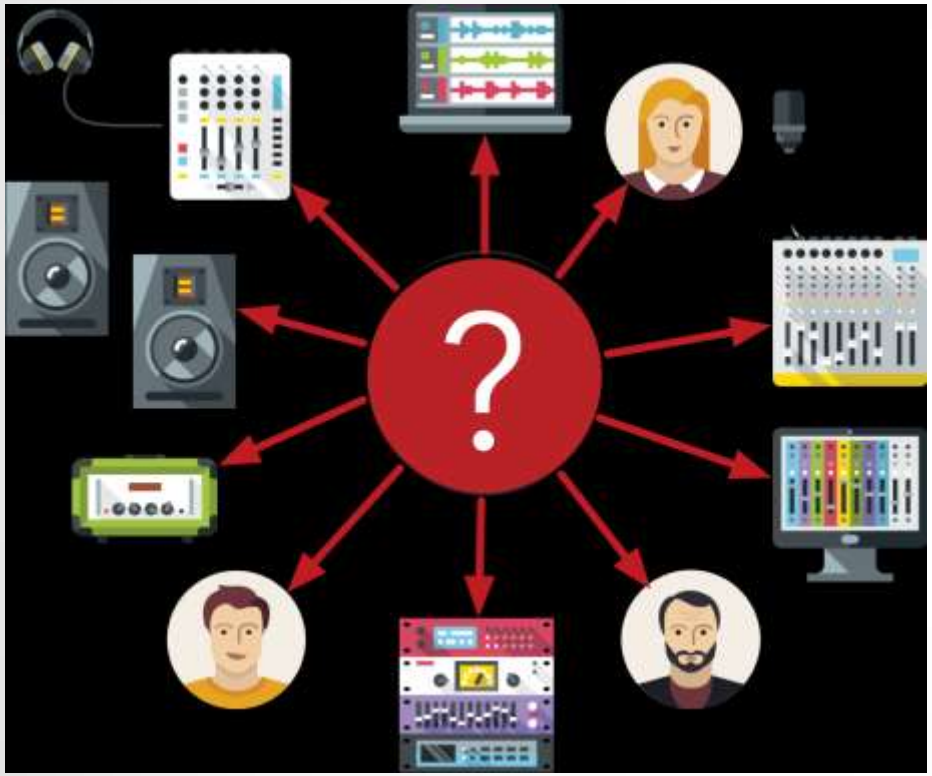
AOIP is established

multi track, digital, no hum, no hiss, IP, easier installs, lighter cable, longer runs, fewer cables, easier patching, no orphan cables, enhanced workflow, etc etc etc

Now, if only AV and IT departments could find a way to work together

Copyright 2017 Audinate Pty Ltd. All rights reserved

AV networks bring IT-level concerns



How can I make sure that only authorized changes are made?

How can I tell who has made changes to my system? What did they do?

How can I centralise Dante AV system management in my site?

How can I quickly tell if the system is working correctly?

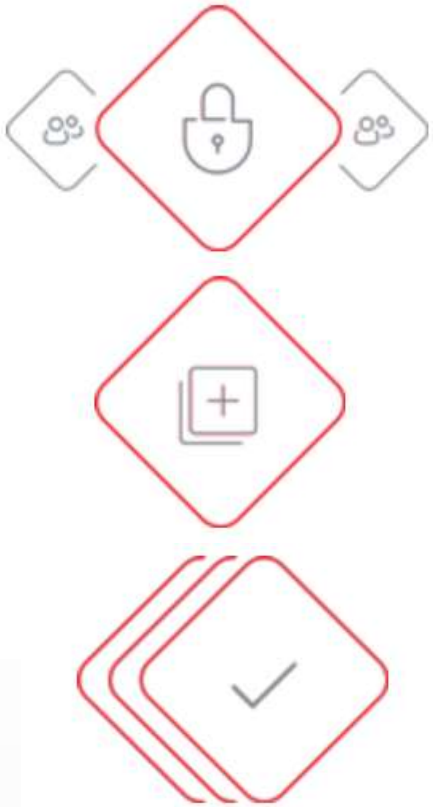
Copyright 2017 Audinate Pty Ltd. All rights reserved

DANTE DOMAIN MANAGER
IT issues resolved

SECURITY

SCALABILITY

VISIBILITY



CONTROL

FLEXIBILITY

ACCOUNTABILTY

Copyright 2017 Audinate Pty Ltd. All rights reserved

Introducing

DANTE DOMAIN MANAGER

SECURITY

- Usernames/passwords identify users
- Roles control access to the system

SCALABILITY

- Create Dante systems spanning campus networks
- Group Dante devices into logical managed systems

VISIBILITY

- Centralise Dante system management
- Monitor system status and changes from anywhere

Copyright 2017 Audinate Pty Ltd. All rights reserved

Security and Control

USER AUTHENTICATION	• Username/password login in Dante Controller • Optional integration with Active Directory
USER ROLES	• Grant access only where needed, control changes • Four built-in privilege levels
DOMAIN MANAGEMENT	• Per-domain user privileges are supported • Domains can be isolated from each other

Copyright 2017 Audinate Pty Ltd. All rights reserved

Scalability and Flexibility

ROUTED CAMPUS NETWORKS	• Deploy Dante transparently across network subnets • Group devices into Dante Domains regardless of network subnet
LARGE SYSTEMS	• Divide large systems into logical sub-domains • Domains provide performance enhancements
SUPPORT NETWORKS AS-IS	• Minimize or eliminate IT/network changes • No need have Dante devices in a single subnet

Copyright 2017 Audinate Pty Ltd. All rights reserved

Visibility and Accountability

CHECK SYSTEM STATUS INSTANTLY	• Centralized status logging & reporting • User-configurable dashboard shows key information
AUDIT REPORTS	• Complete, time-stamped log of changes & events • Know who did what, when
REMOTE ALERTS	• Email notifications • Integrate with SNMP network management tools

Copyright 2017 Audinate Pty Ltd. All rights reserved

Seamless integration with IT

VIRTUAL SERVER SUPPORT	• Run Dante Domain Manager on virtual machines in data centers
ACTIVE DIRECTORY & LDAP	• Connect Dante Domain Manager to your Active Directory or LDAP server for user management
HIGH AVAILABILITY	• Support for redundant DDM servers in one site
COMMON TOOLS & METHODS	• SNMP Support, Email integration

Copyright 2017 Audinate Pty Ltd. All rights reserved

Easy to use

BROWSER-BASED MANAGEMENT GUI

- Use with popular browsers and devices
- Desktops, laptops, tablets & phones

INTUITIVE NAVIGATION

- Manage domains, devices, users & roles in a single window
- Clear and easy to understand

SIMPLE DEVICE DISCOVERY & ENROLLMENT

- Simple and/or automated Dante device discovery
- Simple, configurable, domain enrollment

Copyright 2017 Audinate Pty Ltd. All rights reserved

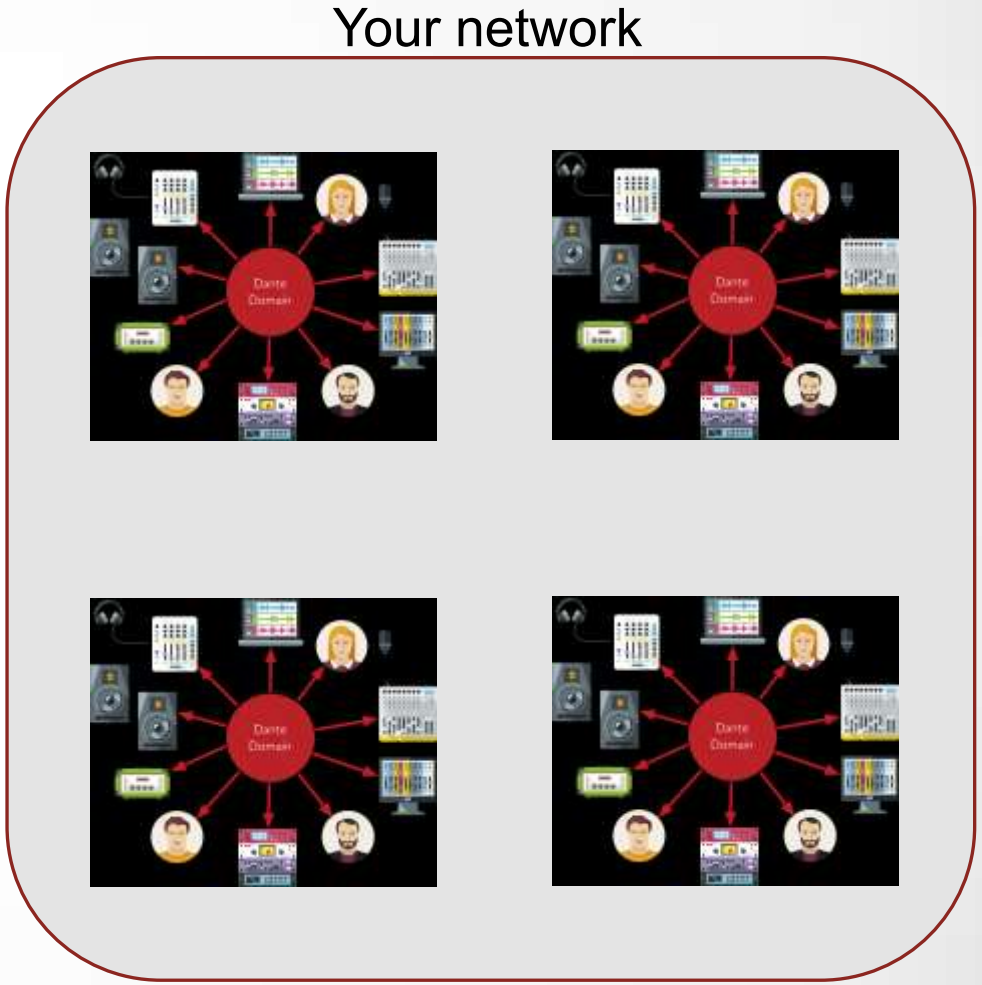
What is Dante Domain Manager?

- ✓ Dante Domain Manager is server-based software that manages your Dante network
- ✓ Runs on Windows or Linux, desktop and server platforms, or virtual environments
- ✓ Managed with a web browser from computer, tablet or phone
- ✓ Not in the audio path – audio continues even if the server has failed or is unreachable

Copyright 2017 Audinate Pty Ltd. All rights reserved

About Dante Domains

- ✓ A Dante Domain is a logical group of devices and users with access controls
- ✓ A Dante Domain may be used to represent a location, building, zone, …
- ✓ Many Dante Domains can share one underlying network
- ✓ A Dante Domain may span IP subnets
- ✓ A Dante Domain can be isolated



Copyright 2017 Audinate Pty Ltd. All rights reserved

What can I do with the DDM?

AV Managers

✓ Easily trouble-shoot AV System problems, identify root causes and take corrective actions quickly

IT Administrators

✓ Use Directory service to manage access to AV systems
✓ Prevent unauthorized changes to AV systems
✓ Log all Dante activity

System Integrators, AV Consultants

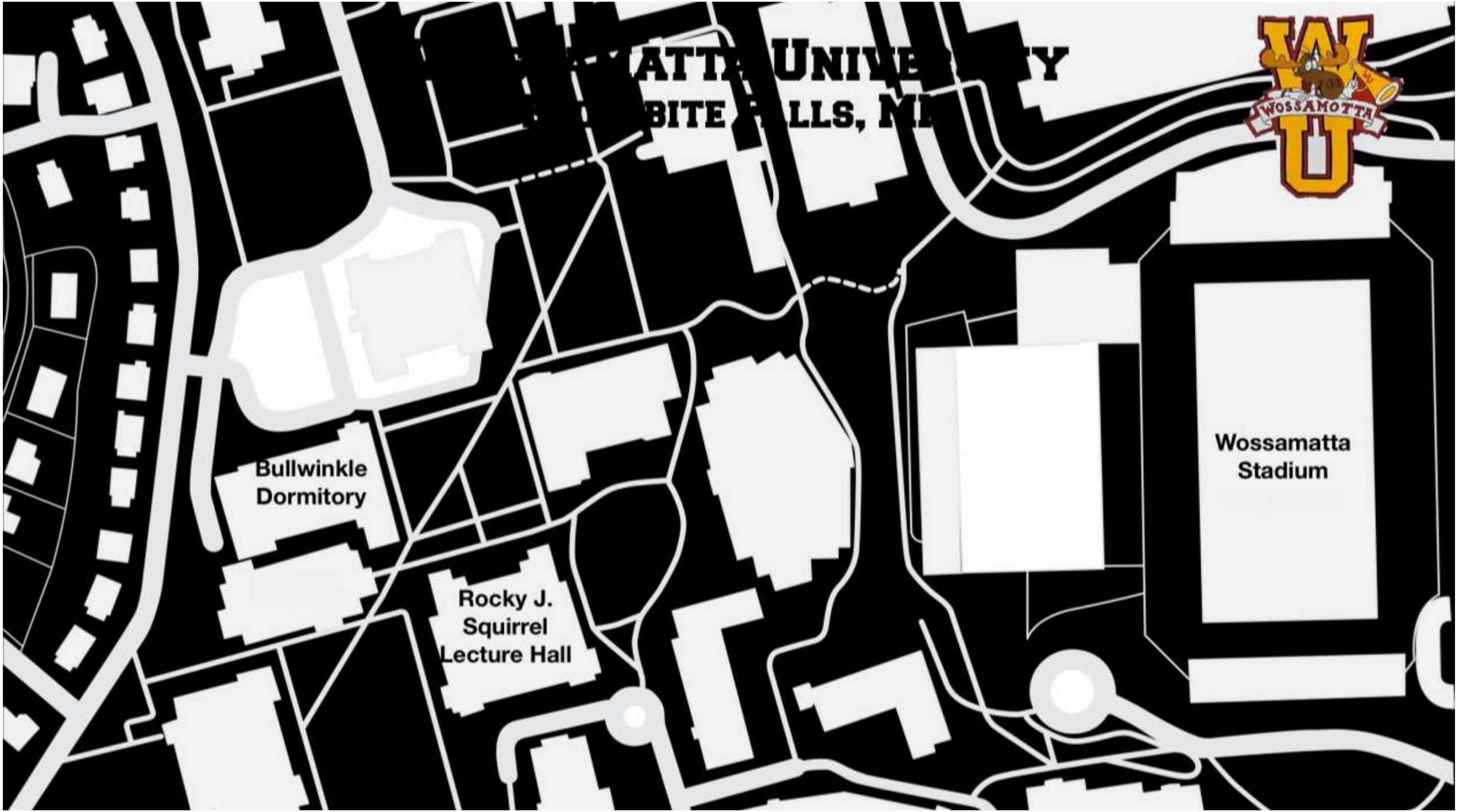
✓ Divide systems into manageable sub-domains
✓ Deploy Dante in campus routed IP networks

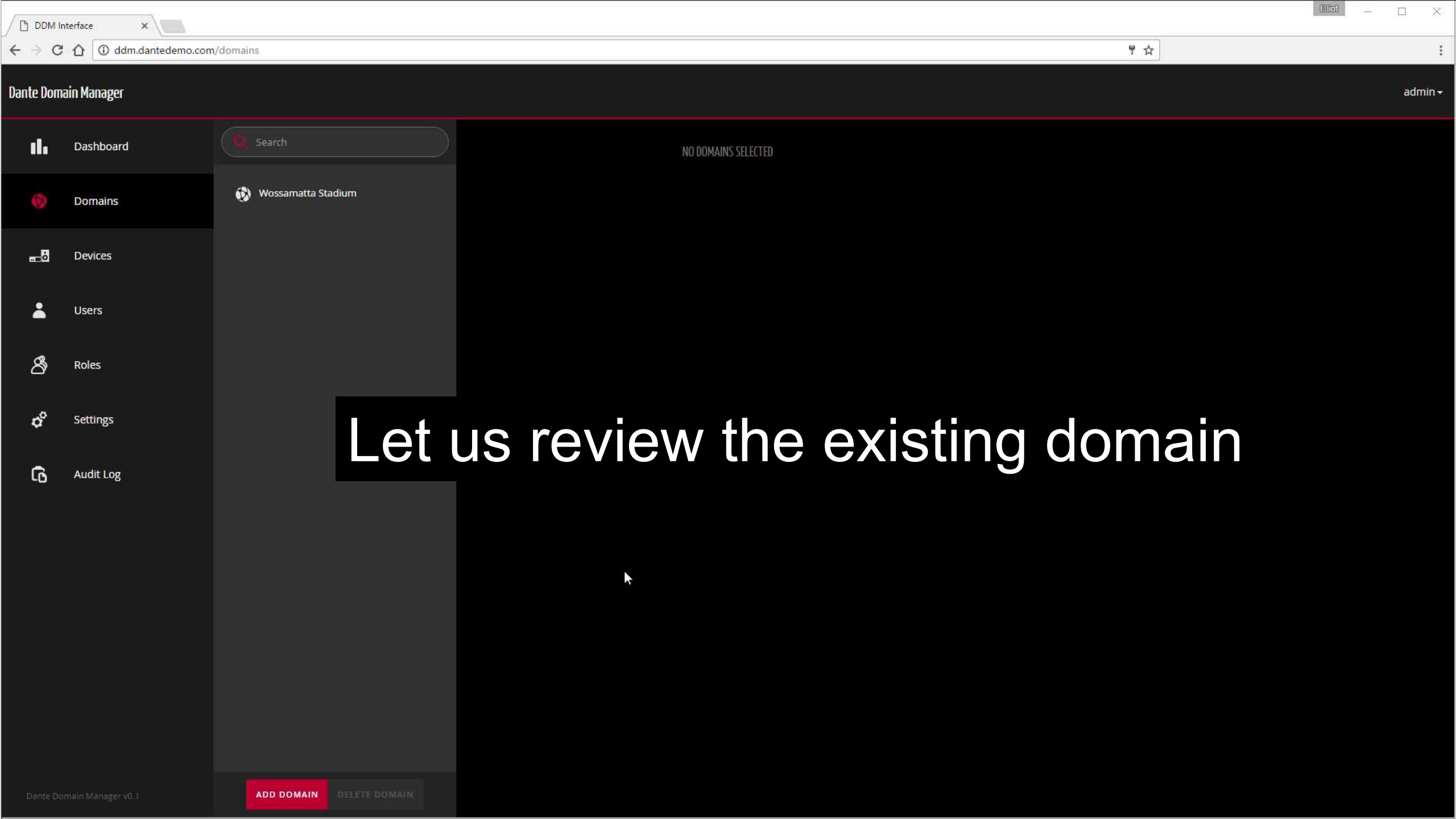
AV System Owners

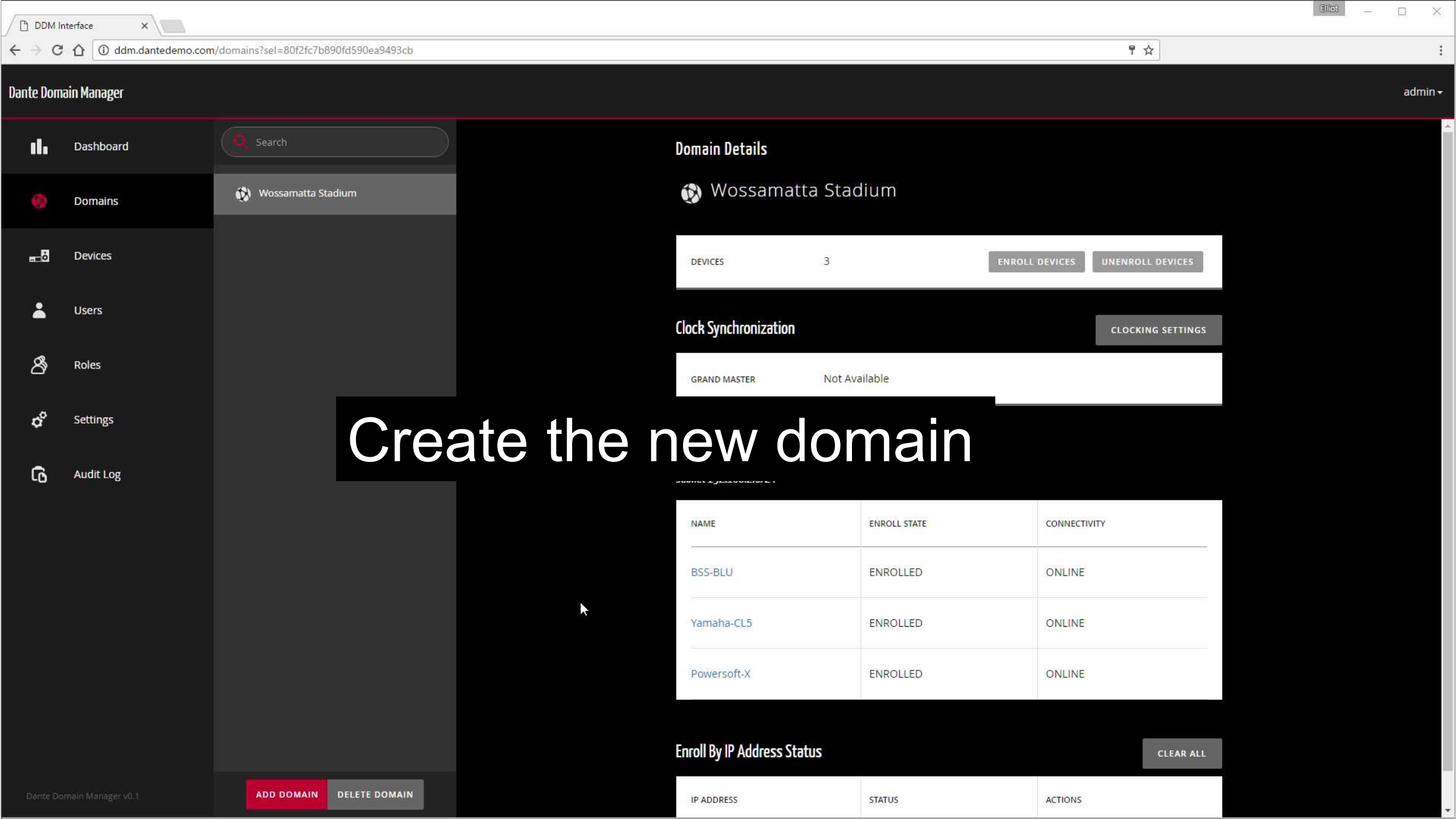
✓ Get notified of AV System issues so they can be actioned immediately

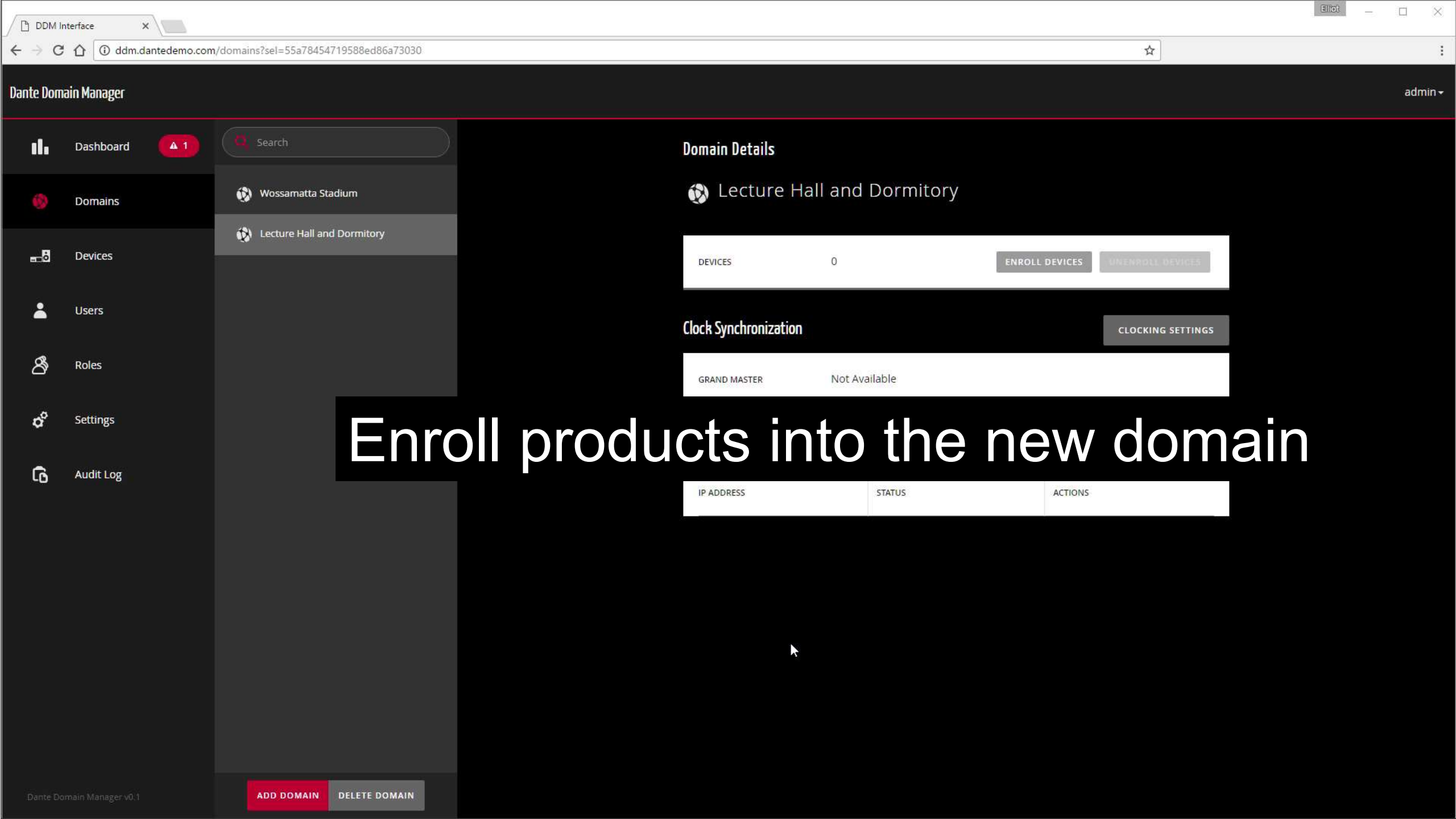
Copyright 2017 Audinate Pty Ltd. All rights reserved

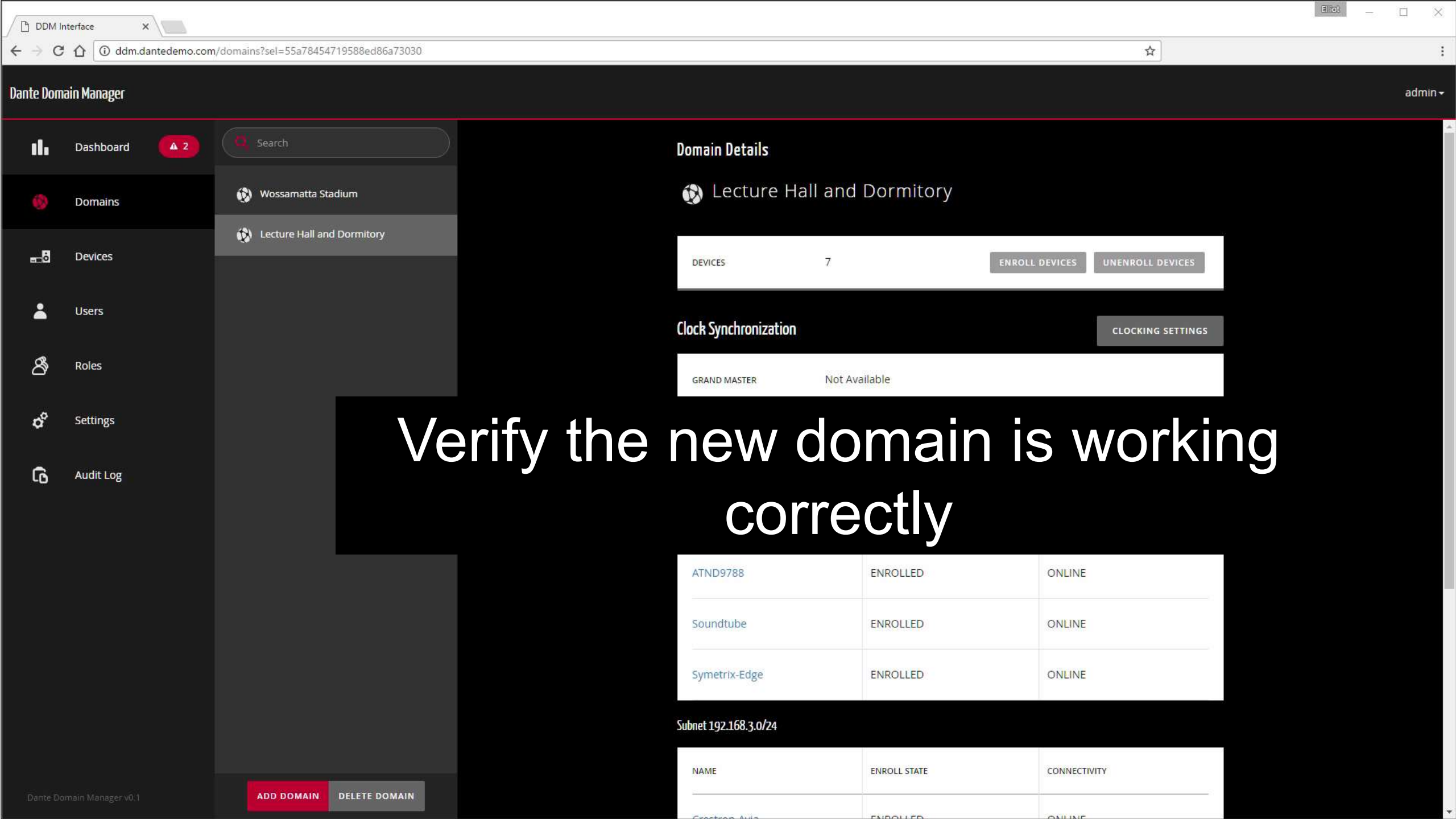
A Campus Example

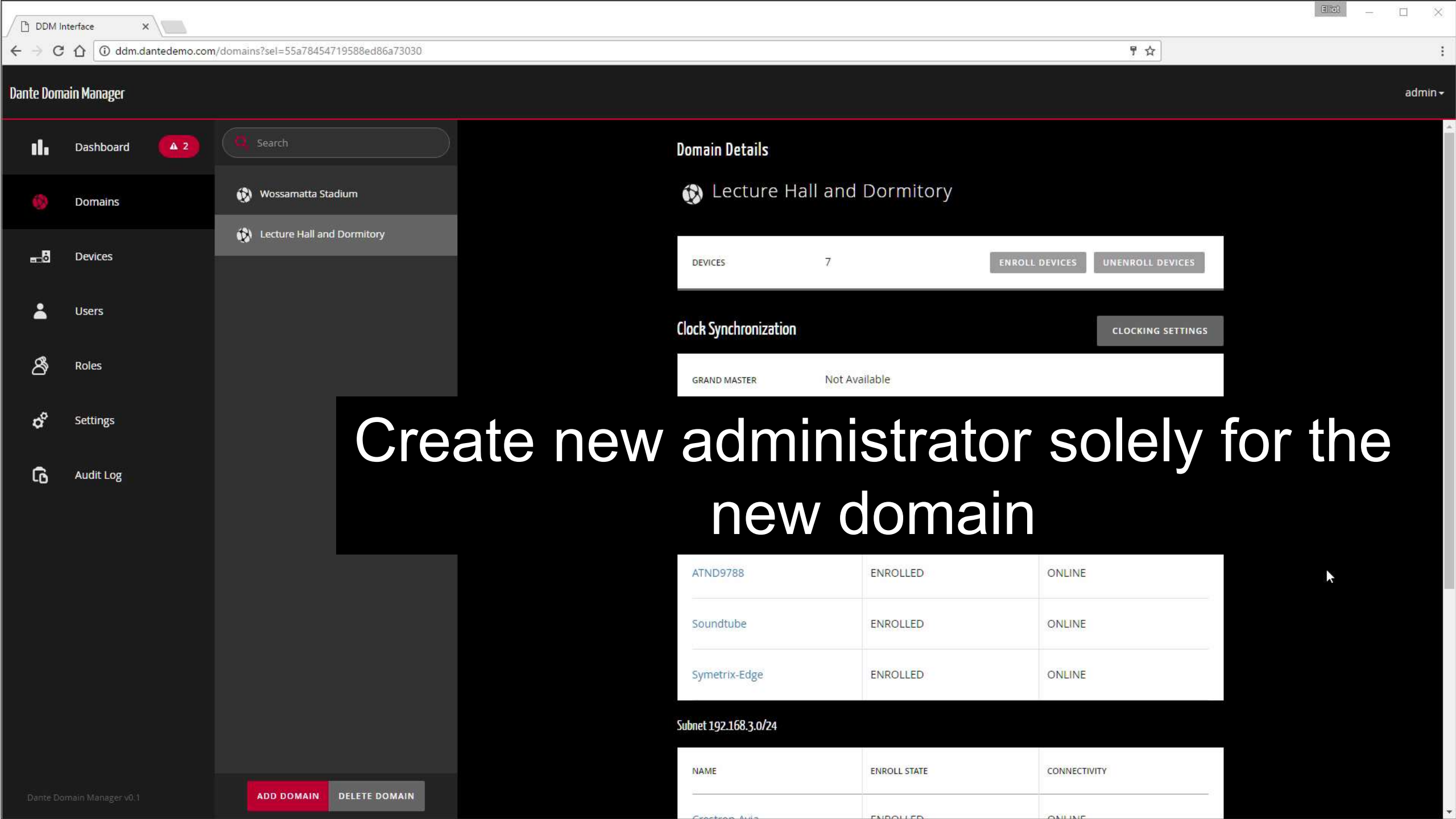

ATT UNIVE Y
BITE LLS, M
WOSSAMOTTA
Bullwinkle
Dormitory
Rocky J.
Squirrel
Lecture Hall
Wossamatta
Stadium

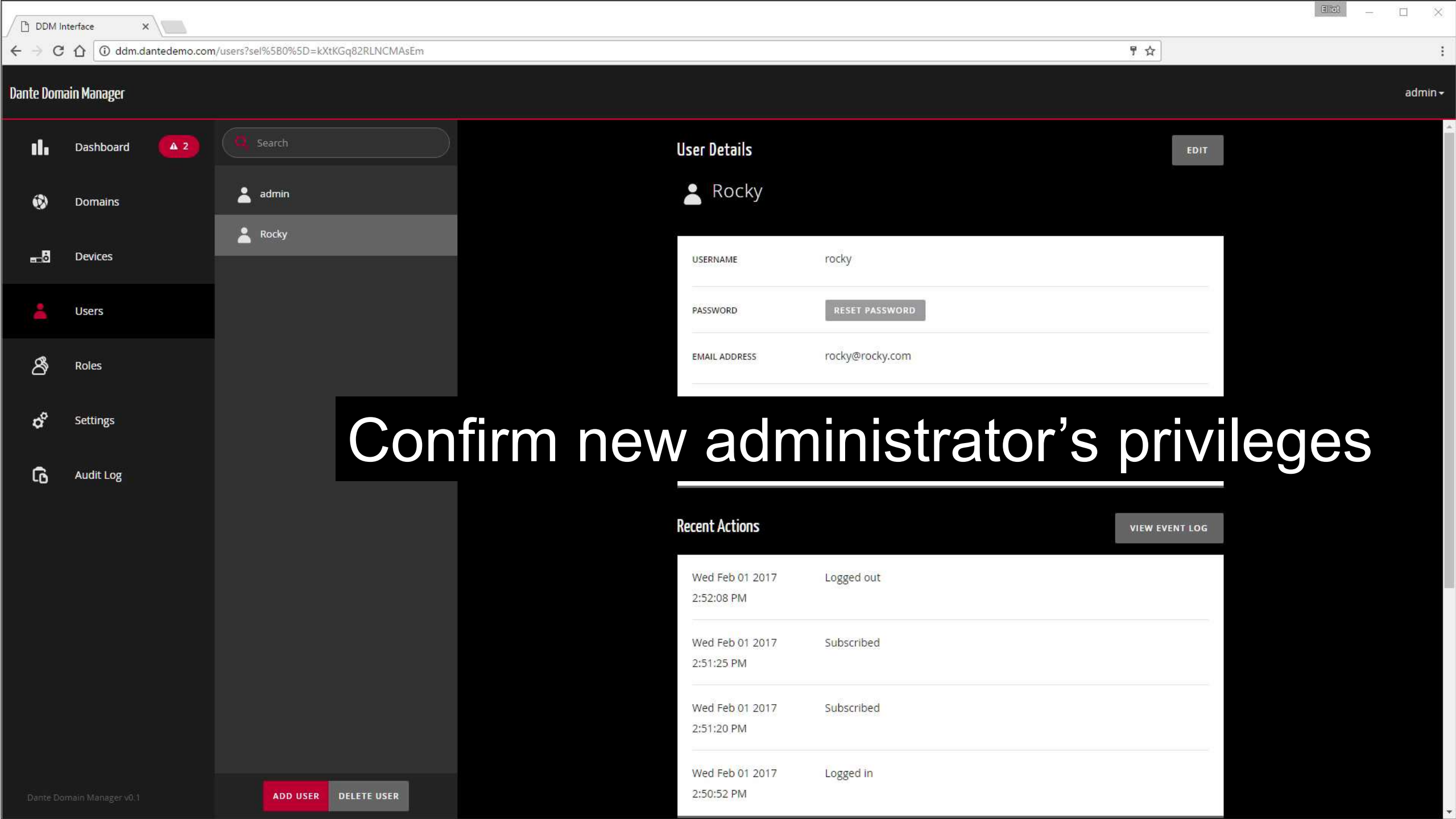

DDM Interface
ddm.dantedemo.com/domains
Dante Domain Manager
admin
Dashboard
Domains
Devices
Users
Roles
Settings
Audit Log
Search
Wossamatta Stadium
NO DOMAINS SELECTED
Let us review the existing domain
ADD DOMAIN
DELETE DOMAIN
Dante Domain Manager v0.1

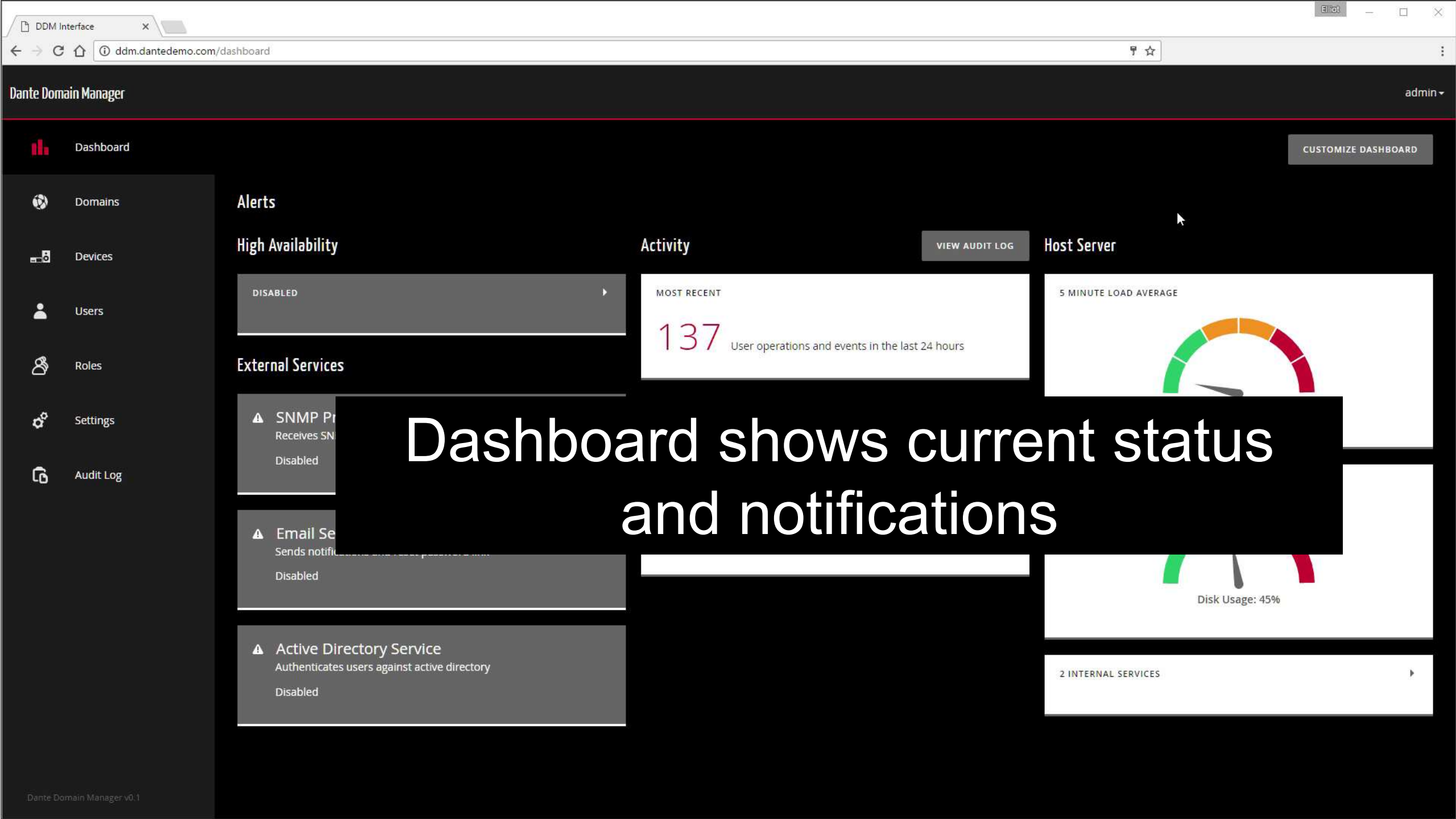

DDM Interface
ddm.dantedemo.com/domains?sel=80f2fc7b890fd590ea9493cb
Dante Domain Manager
admin
Dashboard
Domains
Devices
Users
Roles
Settings
Audit Log
Search
Wossamatta Stadium
ADD DOMAIN
DELETE DOMAIN
Dante Domain Manager v0.1
Domain Details
Wossamatta Stadium
DEVICES
3
ENROLL DEVICES
UNENROLL DEVICES
Clock Synchronization
CLOCKING SETTINGS
GRAND MASTER
Not Available
Create the new domain
NAME
ENROLL STATE
CONNECTIVITY
BSS-BLU
ENROLLED
ONLINE
Yamaha-CL5
ENROLLED
ONLINE
Powersoft-X
ENROLLED
ONLINE
Enroll By IP Address Status
CLEAR ALL
IP ADDRESS
STATUS
ACTIONS

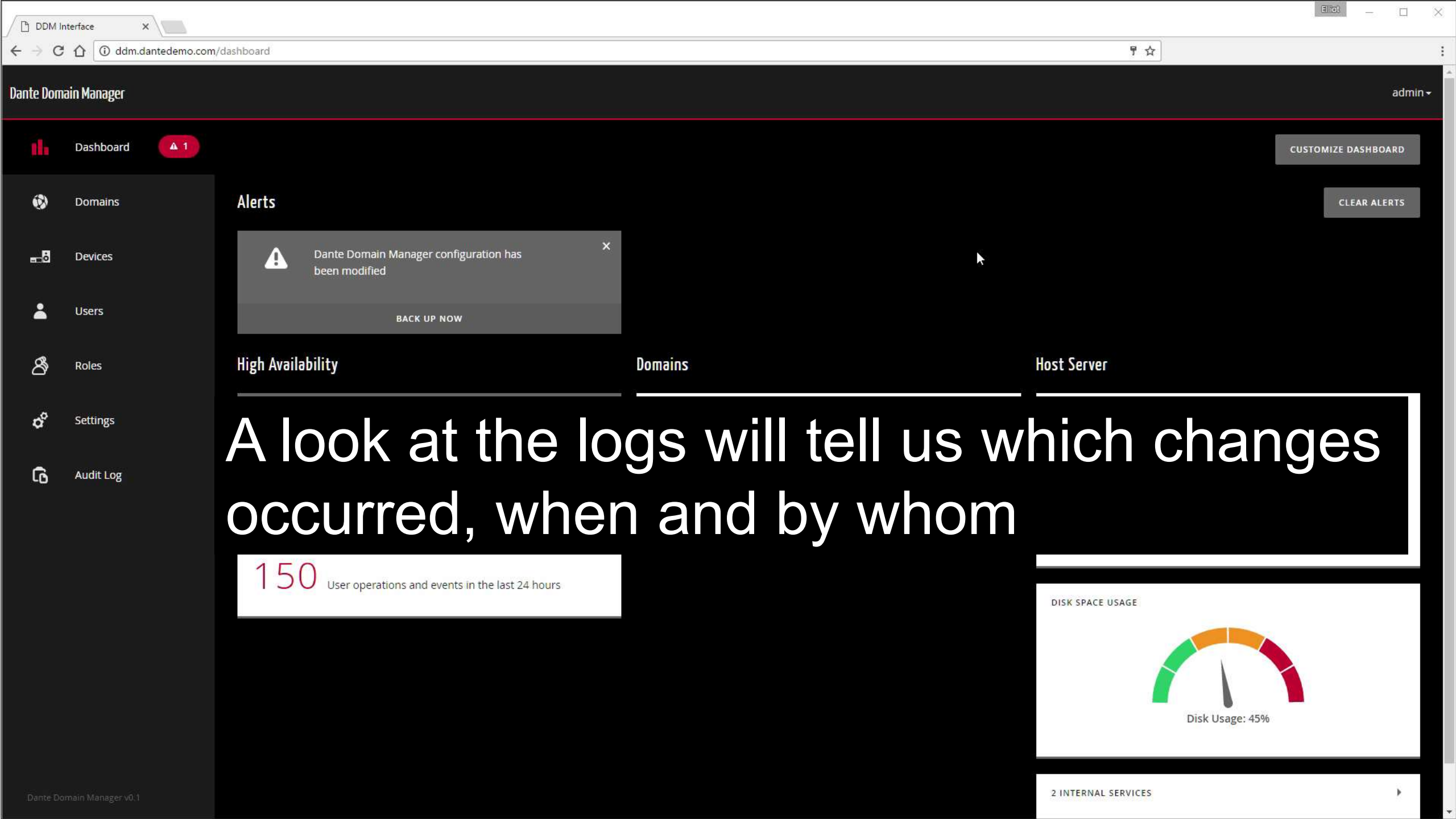

DDM Interface
ddm.dantedemo.com/domains?sel=55a78454719588ed86a73030
Dante Domain Manager
admin
Dashboard
1
Domains
Devices
Users
Roles
Settings
Audit Log
Search
Wossamatta Stadium
Lecture Hall and Dormitory
ADD DOMAIN
DELETE DOMAIN
Dante Domain Manager v0.1
Domain Details
Lecture Hall and Dormitory
DEVICES
0
ENROLL DEVICES
UNENROLL DEVICES
Clock Synchronization
CLOCKING SETTINGS
GRAND MASTER
Not Available
IP ADDRESS
STATUS
ACTIONS
Enroll products into the new domain


DDM Interface
ddm.dantedemo.com/domains?sel=55a78454719588ed86a73030
Dante Domain Manager
admin
Dashboard
2
Domains
Devices
Users
Roles
Settings
Audit Log
Search
Wossamatta Stadium
Lecture Hall and Dormitory
ADD DOMAIN
DELETE DOMAIN
Dante Domain Manager v0.1
Domain Details
Lecture Hall and Dormitory
DEVICES
7
ENROLL DEVICES
UNENROLL DEVICES
Clock Synchronization
CLOCKING SETTINGS
GRAND MASTER
Not Available
Verify the new domain is working correctly
ATND9788
ENROLLED
ONLINE
Soundtube
ENROLLED
ONLINE
Symetrix-Edge
ENROLLED
ONLINE
Subnet 192.168.3.0/24
NAME
ENROLL STATE
CONNECTIVITY

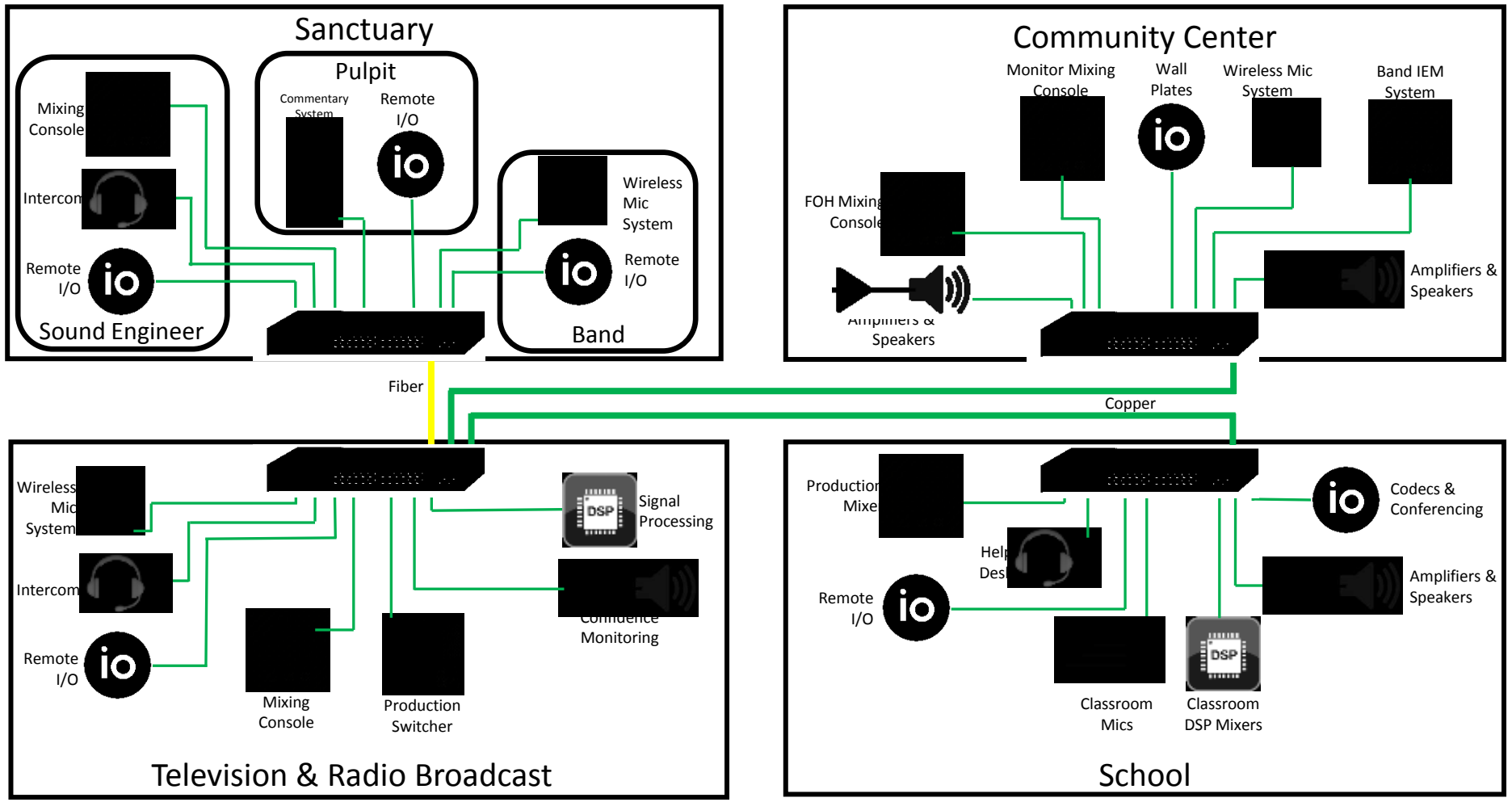

DDM Interface
ddm.dantedemo.com/domains?sel=55a78454719588ed86a73030
Elliot
Dante Domain Manager
admin
Dashboard
2
Domains
Devices
Users
Roles
Settings
Audit Log
Search
Wossamatta Stadium
Lecture Hall and Dormitory
Domain Details
Lecture Hall and Dormitory
DEVICES
7
ENROLL DEVICES
UNENROLL DEVICES
Clock Synchronization
CLOCKING SETTINGS
GRAND MASTER
Not Available
Create new administrator solely for the new domain
ATND9788
ENROLLED
ONLINE
Soundtube
ENROLLED
ONLINE
Symetrix-Edge
ENROLLED
ONLINE
Subnet 192.168.3.0/24
NAME
ENROLL STATE
CONNECTIVITY
ADD DOMAIN
DELETE DOMAIN
Dante Domain Manager v0.1


DDM Interface
ddm.dantedemo.com/users?sel%5B0%5D=kXtKGq82RLNCMAsEm
Elliot
Dante Domain Manager
admin
Dashboard
2
Domains
Devices
Users
Roles
Settings
Audit Log
Dante Domain Manager v0.1
Search
admin
Rocky
ADD USER
DELETE USER
User Details
EDIT
Rocky
USERNAME
rocky
PASSWORD
RESET PASSWORD
EMAIL ADDRESS
rocky@rocky.com
Recent Actions
VIEW EVENT LOG
Wed Feb 01 2017 2:52:08 PM
Logged out
Wed Feb 01 2017 2:51:25 PM
Subscribed
Wed Feb 01 2017 2:51:20 PM
Subscribed
Wed Feb 01 2017 2:50:52 PM
Logged in
Confirm new administrator's privileges


DDM Interface
ddm.dantedemo.com/dashboard
Elliot
Dante Domain Manager
admin
Dashboard
Domains
Devices
Users
Roles
Settings
Audit Log
CUSTOMIZE DASHBOARD
Alerts
High Availability
DISABLED
Activity
VIEW AUDIT LOG
MOST RECENT
137
User operations and events in the last 24 hours
Host Server
5 MINUTE LOAD AVERAGE
External Services
SNMP Pr
Receives SN
Disabled
Email Se
Sends notifi
Disabled
Active Directory Service
Authenticates users against active directory
Disabled
Disk Usage: 45%
2 INTERNAL SERVICES
Dante Domain Manager v0.1
Dashboard shows current status and notifications

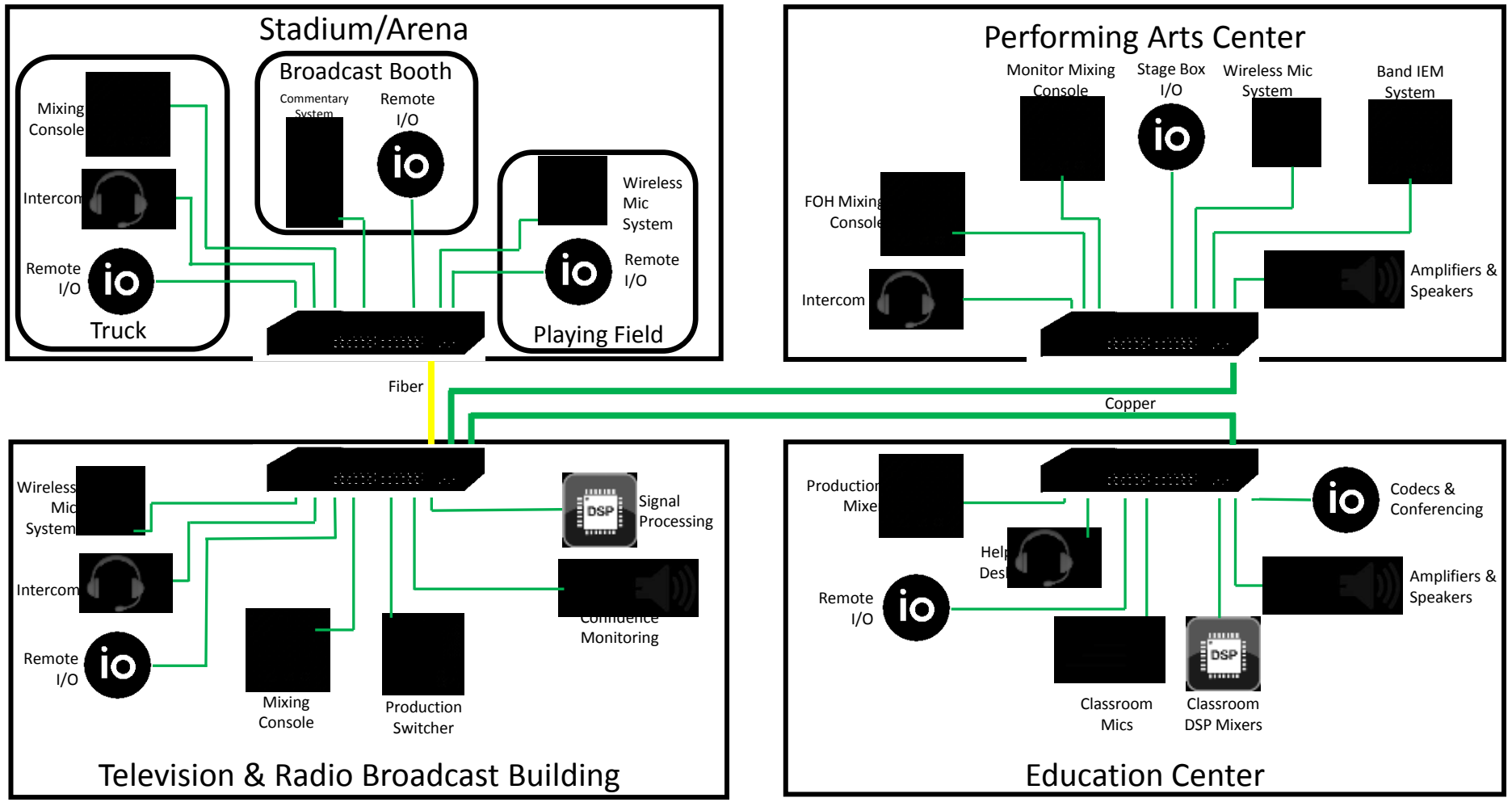

DDM Interface
ddm.dantedemo.com/dashboard
Dante Domain Manager
admin
Dashboard
1
Domains
Devices
Users
Roles
Settings
Audit Log
CUSTOMIZE DASHBOARD
CLEAR ALERTS
Alerts
Dante Domain Manager configuration has been modified
BACK UP NOW
High Availability
Domains
Host Server
A look at the logs will tell us which changes occurred, when and by whom
150
User operations and events in the last 24 hours
DISK SPACE USAGE
Disk Usage: 45%
2 INTERNAL SERVICES
Dante Domain Manager v0.1

USE CASE: HOUSE OF WORSHIP



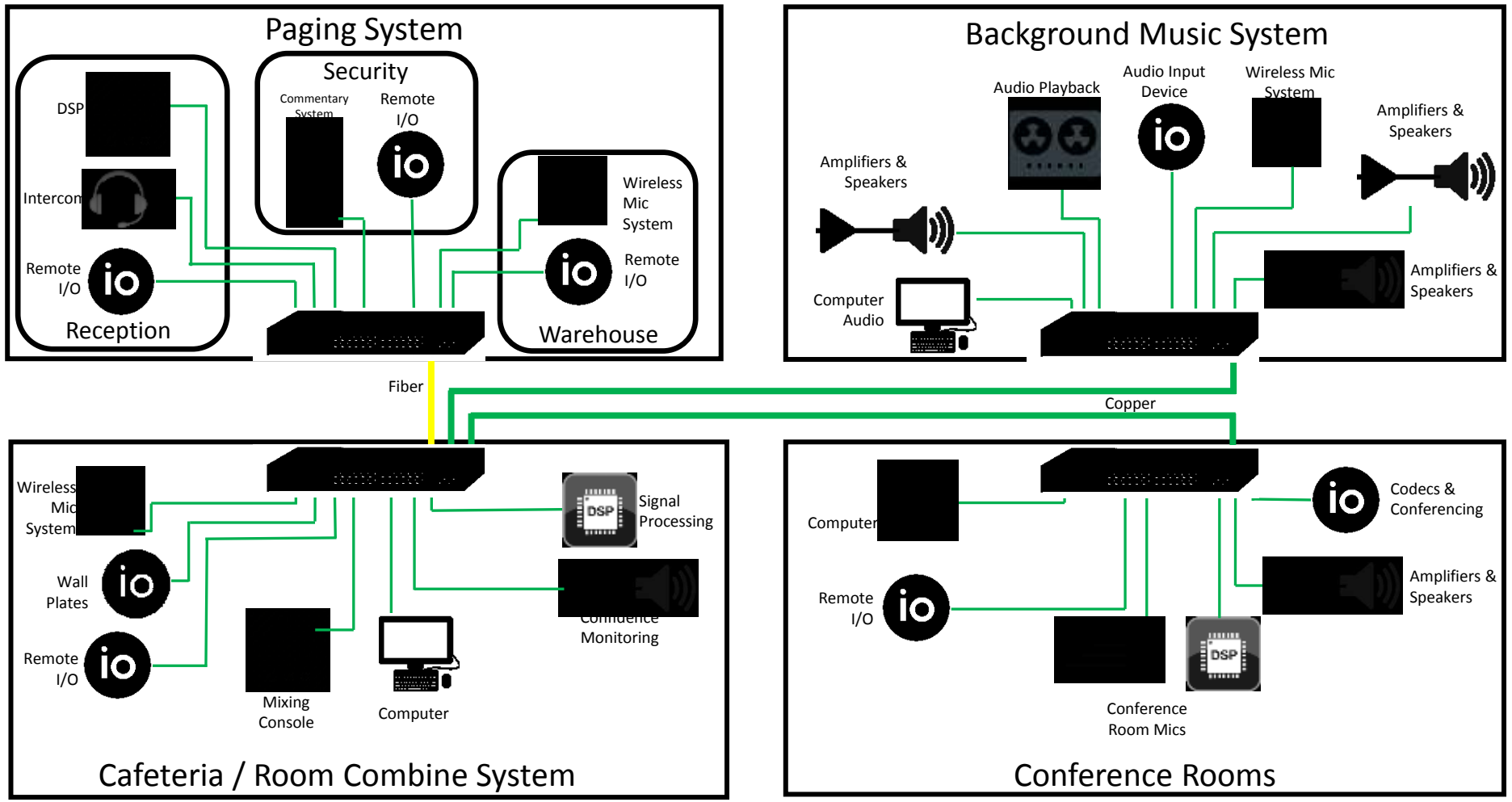
Copyright 2017 Audinate Pty Ltd. All rights reserved

USE CASE: HIGHER EDUCATION



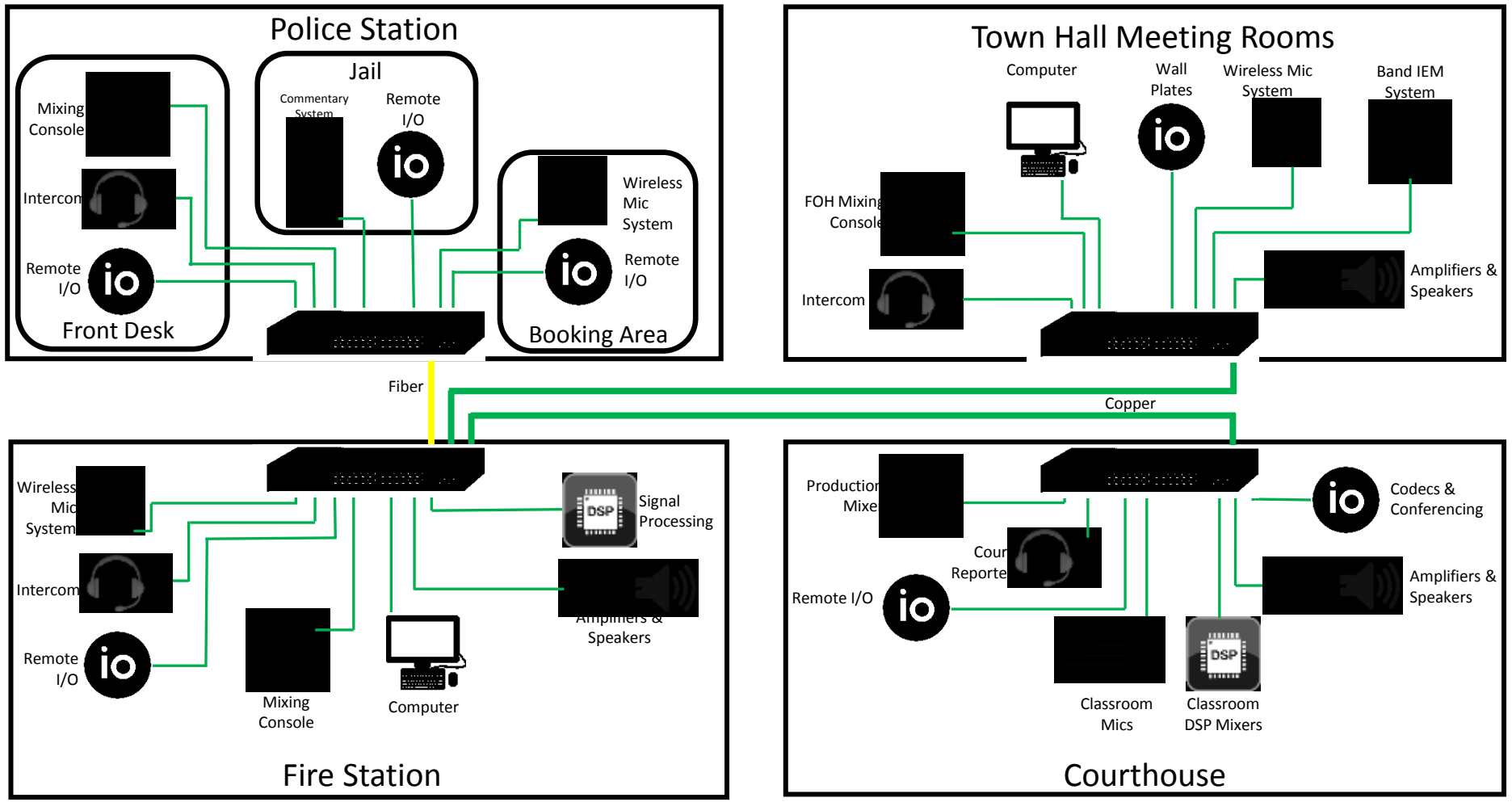
Copyright 2017 Audinate Pty Ltd. All rights reserved

USE CASE: CORPORATE



Copyright 2017 Audinate Pty Ltd. All rights reserved

USE CASE: GOVERNMENT



Copyright 2017 Audinate Pty Ltd. All rights reserved

USE CASE: GOVERNMENT

Copyright 2017 Audinate Pty Ltd. All rights reserved

So in summary, Dante Domain Manager

- Adds greater security to the Dante audio environment
- Makes it easy to integrate into IT
- Facilitates scalability and administration
- Logs all activity in the Dante audio environment for troubleshooting

Copyright 2017 Audinate Pty Ltd. All rights reserved