

7200 Migration

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University of San Diego

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University of San Diego Statistics



- Catholic University founded in 1949
- Campus Size: 180 Acres; 84 Buildings
- Total Student enrollment: 8,105
 - Undergraduate Students: 5,457
 - Graduate Students (Graduate, Paralegal, and Law): 2,648
- Undergraduate Tuition: \$39,486 per year
- 400 full-time faculty and 475 part-time; over 60 degree offerings



University of San Diego Ranking



- #92, National Universities
- #25, Undergraduate Engineering Programs (schools without doctorate)
- #113, Graduate Education Programs
- #50, Graduate Nursing Programs
- #65, Law Schools
- #14, Up-and-Coming Schools
- #23, Online graduate business program (supply chain management)



- #179, Best National Universities
- #15, Community Service Participation and Hours Served
- #20, ROTC Rank
- #39, Peace Corps Rank



- #1, Among top 40 doctorate institutions for undergraduate participation in study abroad



Why Aruba?



Central management

Ease of installations

Competitors compared themselves to Aruba

“We’re just like Aruba”.

Incorporated City



- Restaurant, Cafes, Coffee House & Pub
- Organic Grocery Store, Mini Mart
- Hoteling
- Police/Public Safety Department
- Parks and Recreation, Stadium Venues
- Transportation, roads/streets
- Utilities

Network Infrastructure Services



- NISS is the local cable franchise
- Cable TV – 76 channels
- Telephone/VOIP
- Internet
- Wired and Wireless

Current Wireless Status

- Approximately 1835 802.11n APs
- AP 125, 135 & 175
- 10,750 unique devices
- 5 SSIDs
- 6000 unique users

Connection Mode Ranking

Mode	2008	2009	2012	2013
802.11g	8,783	10,081	1,535	954
802.11b/g	2,794	1,962	21	18
802.11n (5GHz)	N/A	N/A	4,308	5,917
802.11n (2.4GHz)	N/A	N/A	5,549	5,293
802.11a	1,906	2,016	107	171

Ubiquitous Wireless

- ~10,000 “n” users
- New uses for wireless
- Wired network is becoming obsolete
- Access from anywhere

New & Unique Applications



- Rain Bird – Irrigation system
- Handheld scanners
 - Inventory
 - Sport venues
 - Other
- Mobile Apps – live tram tracking

7240 Controllers

- Smaller footprint – 1U
- Greater licensing capacity – 2048/chassis
- Better roaming capabilities
- Greater throughput
- Extended VLAN support

7240 Controllers



- Active firewall session increase
- Increase active session
- Interoperability with our Nexus backbone
- Controller design flexibility
 - Active/Active & Active/Standby

High Availability

	Controller 1	Controller 2
Active	1	2
Standby	2	1

Challenges



- Ability to satisfy users expectations
- Availability
- Adapt quickly to the consumer market
- Security
- PCI
- New Technology – 802.11ac

802.11ac Considerations

- New cabling infrastructure
- Larger diameter cable
- Increased costs
- More power!
- Greater AP density

Questions



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7200 Migration – Best Practices

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March 13, 2013

Agenda



7200 Migration Requirements
Pre-Migration Steps
7200 Migration Process



7200 Migration Requirements

7200 Migration Requirements



- **7200 Series Controllers support ArubaOS 6.2.x**
 - Existing controllers **MUST** be upgraded to 6.2.x
 - Legacy controllers will not run 6.2.x
- **Controllers supporting ArubaOS 6.2.x**
 - M3
 - 3000 Series (3200XM only)
 - 600 Series (651 internal AP disabled: 600 series RAP limit lowers to match CAP limit)
 - 7200 series
- If you are migrating to a 7200 Series controller from a controller not listed above, please contact Aruba support.



7200 Migration Requirements



- **Licensing new 7200 Controllers**
 - All controllers must be individually licensed.
 - A transfer of licenses from existing controllers to 7200 controllers may be possible.
 - License transfer is only possible between current controller models (600, 3000, M3, 7200)
 - Online License transfer: <https://licensing.arubanetworks.com>



Pre-Migration Steps

7200 Migration – Before you begin...



- **Backup Flash on replacement controllers**
 - The *Backup flash* command can be used to save all of these important files and databases.
 - Configuration data
 - WMS database
 - Local user database
 - Licensing database
 - Floor plan JPEGs
 - Custom captive portal pages
 - x.509 certificates
 - Controller Logs
 - flashbackup.tar.gz is created and stored to the flash root directory on the controller
 - Copy flashbackup file to external location

7200 Migration Before you begin...



- **Backup licenses on replacement controllers**
 - The *license export <filename>* command can be used to copy all installed licenses to a custom named text file.
 - This license file is stored to the flash root directory on the controller
 - License backup will make is much easier to restore or rollback the migration process.



7200 Migration Steps

7200 Migration Steps



- 1. Backup Flash on existing controllers first**
 - Prior to upgrading to 6.2.x
 - Copy to external location
- 2. Upgrade existing controllers to ArubaOS 6.2.x**
- 3. Backup Flash on existing controllers (again)**
 - After successful upgrade to 6.2.x
 - Copy to external location
- 4. Prepare licenses for new 7200 controller**
 - Complete the online license transfer or acquire new licenses
- 5. Install new 7200 controller**
 - Configure basic network details or use USB stick to move the flashbackup file to the new 7200

7200 Migration Steps (cont.)



6. Install 7200 licenses

- Backup new licenses to 7200 flash directory
- *license export <filename>*

7. Restore flashbackup on new 7200 controller

- All existing controller data is restored to new 7200
- Port config and licenses will be incorrect and must be manually corrected to match new 7200

DO NOT SAVE CONFIG OR REBOOT YET!

8. Import the 7200 license file

- *License import <filename>*

7200 Migration Steps (cont.)



REBOOT 7200 – BUT DO NOT SAVE CONFIG!

9. Adjust port/VLAN config to match 7200 ports

- Active ports should be disabled until ready for switchover

10. Existing controller should now be taken offline

11. 7200 controller can now be brought online.

- Enable active ports (if disabled) or connect 7200 to network
- Confirm inter-controller connectivity
- Wait a few minutes for controller updates to populate
- Confirm AP connectivity and successful controller updates



Thank You



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