

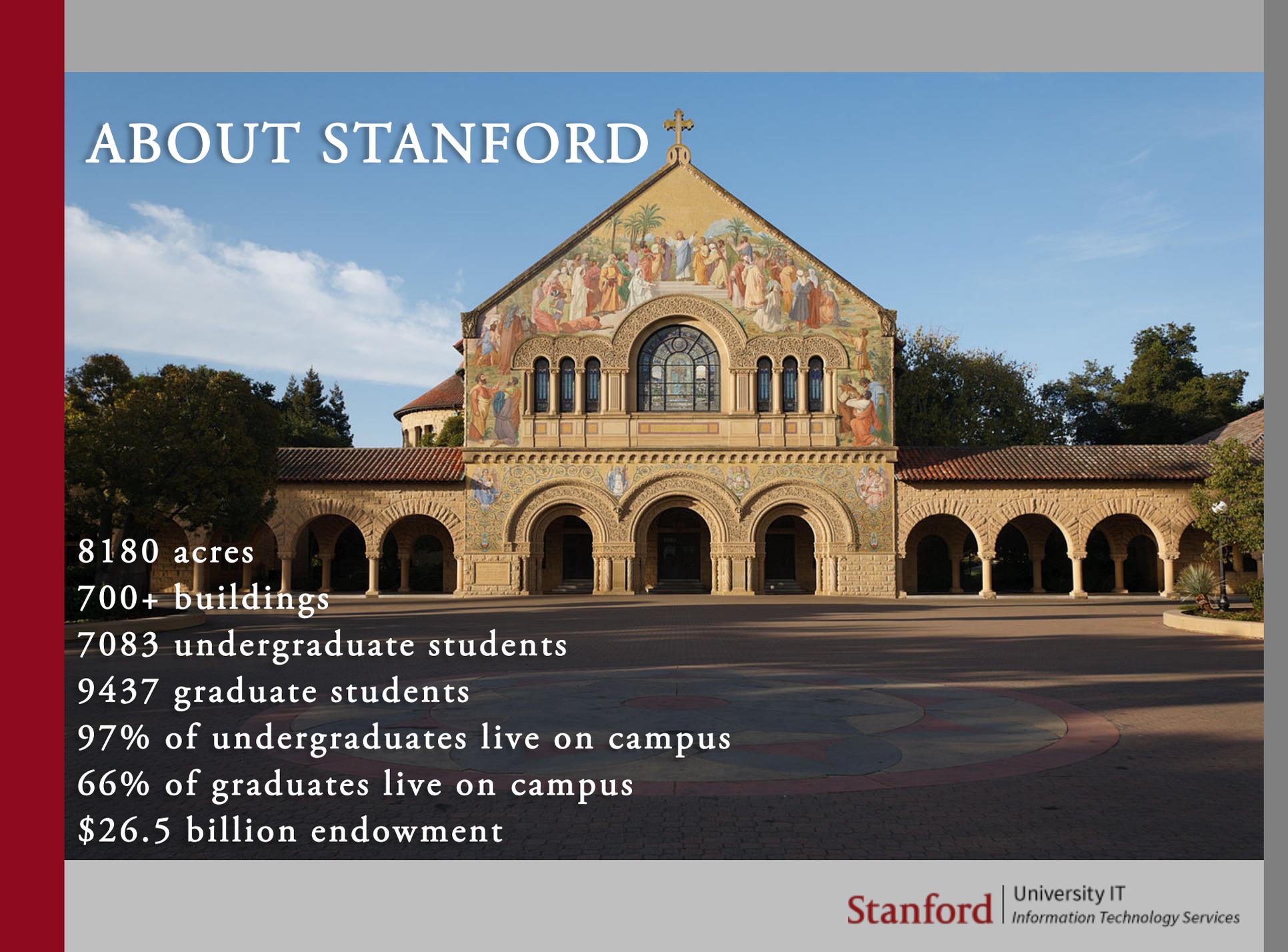
STANFORD CAMPUS LOCKDOWN TESTING



Jonathan Randolph
Higher Education Lenel User's Group – June 4, 2019

Stanford | University IT
Information Technology Services

ABOUT STANFORD



8180 acres

700+ buildings

7083 undergraduate students

9437 graduate students

97% of undergraduates live on campus

66% of graduates live on campus

\$26.5 billion endowment

OUR DEPLOYMENT

OnGuard v7.3.345.634

- 1 application server
- 8 communications servers
- 2 RDS servers
 - All VM's - Windows Server 2012 R2
- 1 database server
 - SQL Server 2012 R1

300+ buildings

691 access panels:

- 403 LNL-3300 panels
- 20 LNL-2220 panels
- 56 LNL-2210 panel
- 212 ILS panels

3483 total locks:

- 2973 wired locks
- 385 wireless locks
- 125 electrified locks

84,000+ Active cardholders

81 Segments



CAMPUS LOCKDOWN TEST
JANUARY 3, 2019



LOCKDOWN BUTTONS

There are 3 locations that have lockdown buttons that impact multiple buildings on campus when activated.

2 locations are located on campus: Forsythe Hall and the Graduate School of Business Faculty West building (GSB). The 3rd location is off campus at the City of Palo Alto Police Dispatch Center (CPA).

The Forsythe Hall and CPA lockdown buttons impact all Lenel readers on campus and the GSB lockdown button impacts ONLY readers at the GSB.



LOCKDOWN TEST PREPARATION

“To Do's”

- ✓ Confirm contact information for ITOC, GSB, RDE, CPA
- ✓ Confirm who will be the person executing the lockdown at each location with each group (ITOC, CPA and GSB)
- ✓ Confirm each group (ITOC, CPA and GSB) has the updated copy of the Lockdown Button procedures
- ✓ Confirm Sentinel is active with ASR team and test Sentinel board alerts in Sentinel
- ✓ Confirm email notification programming is current for all 3 buttons (Forsythe Hall, CPA and GSB)
- ✓ Submit change request notifying campus community of lockdown date and impact
- ✓ Send mass notification to building managers and key stakeholders with 1st and 2nd reminders of campus lockdown test date
- ✓ Program test TZ's and schedulers
- ✓ Configure/audit testing monitor zones
- ✓ Configure access levels for testing and assign to the appropriate badges
- ✓ Do dry run testing with techs on devices in the field

LOCKDOWN TEST PREPARATION (con't)

"To Do's" the week of 1/1/19

- ✓ Send final mass notification reminder to building managers and key stakeholders that lockdown test is scheduled for 1/3
- ✓ Audit the 6 LDB Action Group Libraries (Wired panels, WPS and WR Device groups)
- ✓ Audit the Campus Wireless Reader Lockdown device group
- ✓ Audit DH & DL devices groups
- ✓ Add "Blocked" to ILS Priority One events for all WR's
- ✓ Call CPA dispatch and confirm with CPA managers that we are still a "GO" for the lockdown test on 1/3
- ✓ Update (if needed) monitor zones: All Segments, Wireless, Outputs
- ✓ Remove all test equipment from the All Segments monitoring zone, remove all test equipment from the action group library lockdown programming and remove all test equipment from the device group lockdown programming
- ✓ DO LAST Verify that all LDB functions are available from ALL SEGMENTS & GSB SEGMENT GROUP monitor zones

LOCKDOWN PROGRAMMING

Local I/O Function Lists Device->Function Links

Function List Name	Access Panel
LDB-P-01-001-2.1-2052-ARCADEA ADMIN LOCKDOWN	P-01-001-2.1-2052-BUILDING 1
LDB-P-01-001-2.1-I-XXXX-RECEPTION LOCKDOWN	P-01-001-2.1-2052-BUILDING 1
LDB-P-01-020-2.1-2046X-BLDG20 LOCKDOWN	P-01-020-2.1-2046X-BUILDING 20
LDB-P-01-040-2.1-3003X-BLDG40 LOCKDOWN	P-01-040-2.1-3003X-BUILDING 40
LDB-P-01-050-2.1-2178X-BLDG50 LOCKDOWN	P-01-050-2.1-2178X-BUILDING 50
LDB-P-01-060-2.1-2088X-BLDG60 LOCKDOWN	P-01-060-2.1-2088X-BUILDING 60
LDB-P-01-070-2.1-2016-ARCADEA HUMANI LOCKDOWN	P-01-070-2.1-2016-HUMANI REL ST
LDB-P-01-080-2.1-2028X-BLDG 80 LOCKDOWN	P-01-080-2.1-2028X-BUILDING 80

Assigned Functions

Order	Function	Argument 1	Argument 2
1	All Reader Lock/Set Mode	Card Only	48 hours

Local I/O Function Lists Device->Function Links

Name: LDB-P-01-001-2.1-2052-ARCADEA ADMIN LOCK

Access Panel: P-01-001-2.1-2052-BUILDING 1

Function	Argument 1	Argument 2
1. All Reader Lock/Set Mode	Card Only	48 hours
2.		
3.		
4.		
5.		
6.		

Function Behavior: All Reader Lock/Set Mode

TRUE: All readers on the controller are set to LOCKED for the amount of time in Argument 2.
 FALSE: All readers on the controller are set to the mode in Argument 1 for the amount of time in Argument 2.
 PULSE: Aborts the override mode if currently active.

Action Group Library

Description:

Action Group Description
LDB-CAMPUS CANCEL LOCKDOWN - WIRED READER
LDB-CAMPUS LOCKDOWN - CARD ONLY
LDB-CAMPUS LOCKDOWN - LOCKED/BLOCKED
LDB-GSB CANCEL LOCKDOWN - WIRED READER
LDB-GSB LOCKDOWN - CARD ONLY
LDB-GSB LOCKDOWN - LOCKED/BLOCKED
LDB-SRWC CANCEL LOCKDOWN - WIRED READER
LDB-SRWC LOCKDOWN - CARD ONLY
LDB-SRWC LOCKDOWN - LOCKED/BLOCKED
Leda WinterBreak Test Activate
Leda WinterBreak Test Deactivate
Lock Braun 206
Lock Dink PR No B G I
LockDinkG
Mikael meeting
Munger 1 Exterior Doors Mask

Contents:

Action Type	Description
Reader Mode...	0-0 CAMPUS WIRELESS READER Lockdown : Set Mode...
Execute Func...	Execute (PULSE) : LDB-P-01-001-2.1-2052-ARCADEA AD...
Execute Func...	Execute (PULSE) : LDB-P-01-020-2.1-2046X-BLDG20 LO...
Execute Func...	Execute (PULSE) : LDB-P-01-040-2.1-3003X-BLDG40 LO...
Execute Func...	Execute (PULSE) : LDB-P-01-050-2.1-2178X-BLDG50 LO...
Execute Func...	Execute (PULSE) : LDB-P-01-060-2.1-2088X-BLDG60 LO...
Execute Func...	Execute (PULSE) : LDB-P-01-070-2.1-2016-ARCADEA HU...
Execute Func...	Execute (PULSE) : LDB-P-01-080-2.1-2028X-BLDG 80 LO...
Execute Func...	Execute (PULSE) : LDB-P-01-090-2.1-2020-ARCADEA PH...
Execute Func...	Execute (PULSE) : LDB-P-01-100-2.1-2019-ARCADEA AN...
Execute Func...	Execute (PULSE) : LDB-P-01-110-2.1-2028X-BLDG110 LO...
Execute Func...	Execute (PULSE) : LDB-P-01-120-1.1-XXXX-MCCLATCHY...
Execute Func...	Execute (PULSE) : LDB-P-01-120-4.1-4091X-MCCLATCH...
Execute Func...	Execute (PULSE) : LDB-P-01-160-1.1-1118X-WALLENBE...
Execute Func...	Execute (PULSE) : LDB-P-01-160-3.1-3111-GOV COMM R...
Execute Func...	Execute (PULSE) : LDB-P-01-160-3.1-3111-OPA LOCKDO...
Execute Func...	Execute (PULSE) : LDB-P-01-200-0.1-0083-LANE HISTO...

LOCKDOWN PROGRAMMING (con't)

Global Linkage

Name: LDB-CAMPUS LOCKDOWN BUTTON

Global Linkage Input Event Output Action

World time zone: (GMT-08:00) Pacific Time (US & Car)

Event Timestamp Tolerance: Hour(s) 0, Minute(s) 1, Second(s) 0

Daylight savings

Timezones: Always, DORFSI-06-010-8A-9P M-F, DINHOSCON-UNLOCK HOURS-06-400K-WILBUR DINING, HOUSING-TEMP LINEN CREW LEAD-TZ MON-FRI 0745-1700, VPUE-03-420-8A-5P, ATHLETICS-08-110-TAEKWONDO

Logic correlation time period: 10 seconds

Global Linkage

Name: LDB-CAMPUS LOCKDOWN BUTTON

Global Linkage Input Event Output Action

Event	Device	Parameter
Alarm Active	LDB-UU-CPA-U U4-UUUUU-LOCKDOWN	
Alarm Active	A-14-200-2.31-2829-CAMPUS LOCKDOWN BUTTON	

Create AND Logic Group Add Modify Delete

Create OR Logic Group

Global Linkage

Name: LDB-CAMPUS LOCKDOWN BUTTON

Global Linkage Input Event Output Action

Action Type	Description
Action Group	LDB-CAMPUS LOCKDOWN - LOCKED/BLOCKED

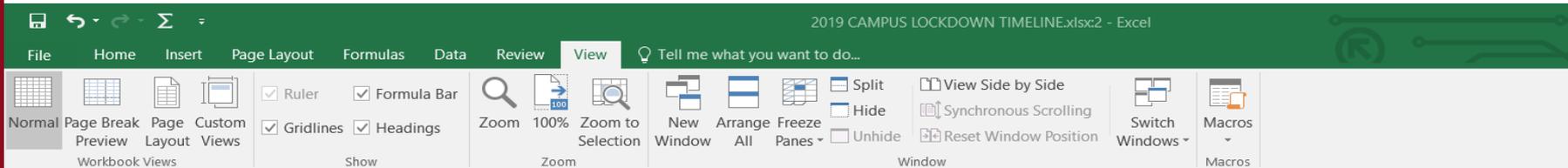
Add Modify Delete

- P-14-200-2.3-2829-FORSYTHEHALLIN (Firmware Revision:1.32.2)
 - A-14-200-2.3-I-1743-F125OSCDR
 - A-14-200-2.3-I-2829-12V AC FAIL
 - A-14-200-2.3-I-2829-12VBATTFAIL
 - A-14-200-2.3-I-2829-24VACFAIL
 - A-14-200-2.3-I-2829-24VBATTFAIL
 - A-14-200-2.3-I-2829-ACPTAMP
 - A-14-200-2.3-I-2829-CAMPUS CARD ONLY BUTTON
 - A-14-200-2.3-I-2829-CAMPUS LOCKDOWN BUTTON
 - A-14-200-2.3-I-2829-DR RLS 2824
 - A-14-200-2.3-I-2829-POWERTAMP
- P-14-200-2.3-2829-FORSYTHEHALLOT (Firmware Revision:1.32.2)
- Function Lists

PRE-LOCKDOWN TASKS

- Document offline readers, scheduler events programmed to fire during LD window, document list of TRMs for ONLY wireless readers and DH and DL outputs that have H1 checked.
- Document WR's that are NOT in CARD ONLY.
- Document DL's that are activated (unlocked) and DH's that are deactivated (unlocked/DH magnetized).
- Contact technician and verify access modes on test doors.
- Send email communication #1 to community and advise that the 1st lockdown test will start in 30 minutes.
- Contact R&DE CARE team and advise that the 1st will start in 30 minutes.
- Contact ITOC monitoring team and advise that the 1st will start in 30 minutes and they need to be in position to press the lockdown button.

LOCKDOWN TIMELINE



	A	B	C	D	E	F
1	LOCKDOWN TASKS	TASK DETAILS	TECH	PLANNED START TIME	ACTUAL START TIME	DURATION
2	Document offline readers, scheduler events programmed to fire during LD window (6am-8am), document list of TRMs for ONLY wireless readers and DH and DL outputs that have H1 checked.	1) From the Report Configuration tab run the "Reader Timezone Schedules" report for list of WR's and the TZ's assigned to them - See column "K" (filter out other devices). 2) From the Alarm Panel Reports tab run the "Alarm Output Panel" report for a list of Outputs and TZ's assigned to them - See column "R" for TZ's to lookup. 3) From the Report Configuration tab run the "Timezone" report which will give you a list of the TZ's, then filter the "AK" column by "YES" which represents that the H1 box is checked. Use the "Timezone" report to look up the readers on the other 2 reports.	Tracy/Jose	4:00 AM		60 MINUTES
3	Document WR's that are NOT in CARD ONLY (log into WR Monitor Zone). Document DL's that are activated (unlocked) and DH's that are deactivated (unlocked/DH magnetized to prop open) by logging into specific All Segments > "Door Lock (DL) Outputs Monitor Zone" and taking screenshots.	Login to the Wireless panel monitor zone & Door Lock (DL) Outputs/Door Hold (DH) Outputs monitor zones. For the WR's: Login to All Segments and the Wireless Reader monitor zone then goto Configure -> System Status options -> Pick "List" under the View section and sort by Device column. For the DH's and DL's: Login to All Segments and the All Segments monitor zone then goto Configure -> System Status options -> Pick "List" under the View section and sort by Device column and look for outputs with anything other than "normal".	Jonathan			
4						
5	Test door states and prep doors in Polya Hall	UNLOCK - R-14-160-1.1-E-2215-2FLEASTENTRY (TRACY) CARD ONLY - WR-14-160-1.1-I-1247-AUDITORIUM (JOSE) CARD ONLY - WRS-14-160-1.1-I-1226-106OFFICE (JOSE) UNLOCK - WRA-14-160-2.2-I-2216-213 OFFICE (JONATHAN)	Jonathan/Tracy/Jose	5:00 AM		30 MINUTES
6	Robert (408-694-8091) in place at Huang for DH & DL testing (04-080 TSO 2077)	Test DH & DL functionality before lockdown. O-04-080-2.1-I-2077-2FL STAIR DL and O-04-080-2.1-I-2077-2FL STAIR DH. Activate O-04-080-2.1-I-2077-2FL STAIR DL prior to lockdown, Deactivate O-04-080-2.1-I-2077-2FL STAIR DH and prop door open prior to lockdown.	Jonathan			
7						
8	Send email communication #1 to advise that the 1st Lockdown will be executed in 30 minutes @ 6am		Jonathan	5:30 AM		15 MINUTES
9	Call CARE team: (650) 353-8435, (650) 353-8433, (650) 862-8219 and advise Lockdown will start in 30 minutes		Jonathan			
10	Call Lee Redmon that the Lockdown will be executed in 30 minutes (650-533-2691)		Jonathan			
	Call ITOC (650-721-4862) and advise Lockdown will start in 30 minutes and they need to be in position to hit RED button	Confirm they are logged into "All Segments" in Alarm Monitoring and will be ready to execute Output lockdowns and the "Restore"	Jonathan			

LOCKDOWN NOTIFICATIONS

Alarm Definitions Alarm Configuration Priority Text Audio CCTV Instructions Messages Acknowledgment Actions Failure to Acknowledge ILS

Alarm

- LOCKDOWN: LDB AT CAMPUS ACTIVATED
- LOCKDOWN: LDB AT CAMPUS DEACTIVATED
- LOCKDOWN: LDB AT CPA ACTIVATED
- LOCKDOWN: LDB AT CPA DEACTIVATED
- LOCKDOWN: LDB AT GSB ACTIVATED
- LOCKDOWN: LDB AT GSB DEACTIVATED
- Locked Under AFC
- Locked Under First Card Unlock
- Log Overflow
- Log Threshold
- Logged In Success
- Logged Out Success
- Login Tamper
- Loitering

Name: LOCKDOWN: LDB AT CAMPUS ACTIVATED Priority: 200

Display alarm Must mark in progress
 Print alarm Must acknowledge
 Visual notification Require login on acknowledge
 Display map Must enter response on acknowledge
 Video verification Don't delete on acknowledge
 Show cardholder Operator can change response
 Active alarm Alarm description format:
 Aggregate alarm

Assigned event(s):

Event	Device	Type
Alarm Active	A-14-200-2.3-I-2829-CAMPUS CARD ONLY B...	Input
Alarm Active	A-14-200-2.3-I-2829-CAMPUS LOCKDOWN ...	Input

Link Summary

Alarm Definitions Alarm Configuration Priority Text Audio CCTV Instructions Messages Acknowledgment Actions Failure to Acknowledge ILS Priority Or

Alarm

- Lock Tamper Restored
- Lock Type Read
- Lock Updated
- LOCKDOWN: LDB AT CAMPUS ACTIVATED
- LOCKDOWN: LDB AT CAMPUS DEACTIVA...
- LOCKDOWN: LDB AT CPA ACTIVATED
- LOCKDOWN: LDB AT CPA DEACTIVATED
- LOCKDOWN: LDB AT GSB ACTIVATED
- LOCKDOWN: LDB AT GSB DEACTIVATED
- Locked Under AFC
- Locked Under First Card Unlock
- Log Overflow
- Log Threshold
- Logged In Success
- Logged Out Success

Type

- System
- System
- System
- User
- User
- User
- User
- User
- System
- System
- System
- System
- System

Messages

Type To Message

E-M... PROD SMARTS, E-Mail... LOCKDOWN ACTIVATED: F

View E-Mail Message

To: dps-notification@lists.stanford.edu

Subject: LOCKDOWN ACTIVATED: Forsythe Hall

Message: A lockdown action has been activated using a Forsythe Hall lockdown button. The type of lockdown is identified in the device listed below.

Device: %deviceName
Start time: %alarmTime

231 characters

OK Cancel

 noreply@stanford.edu Jonathan Randolph

LOCKDOWN ACTIVATED: Forsythe Hall

 We removed extra line breaks from this message.

A lockdown action has been activated using a Forsythe Hall lockdown button. The type of lockdown is identified in the device listed below.

Device: A-14-200-2.3-I-2829-CAMPUS LOCKDOWN BUTTON
Start time: 6:02:06 AM 1/3/2019

LOCKDOWN NOTIFICATIONS (con't)

Stanford University

HOME SEARCH CONFIGURE HEADERS
Legend

Active Root Causes
Search:

CSV

Sev	Ack	Owner	Class	Name	OA	Event	Event Text	Source	Count	Last Change	First Notify	Clear on Ack	Event Type
2			ACES_..	null	UNK	Campus Lockdown ACTIVATED	A lockdown action has been activated using a Fo Email		10	12/3/18 15:43	1/3/19 06:02		Durable

Showing 1 to 6 of 6 entries

Alert Detail
Audit Trail
Run Book

```

alertClass          ACES_..
event               Campus Lockdown ACTIVATED
name                null
source              Email
lastChangeEpoch    1546524138
status              active
hostname            null
text                A lockdown action has been activated using a Forsythe Hall lockdown button. The type of lockdown is identified
                    in the device listed below. Device: A-14-200-2.3-I-2829-CAMPUS LOCKDOWN BUTTON Start time: 6:02:06 AM
                    1/3/2019 Original Timestamp: Thu, 03 Jan 2019 06:02:06 -0800
category            Stanford
severity            2
eventType           Durable
messageID           20190103140206.CDF324F_codegreen6.stanford.edu
clearOnAck          false
created_at          1/3/19 06:02
updated_at          1/3/19 06:02
oa                  UNK
count               10
Acknowledged
Owner
LastChange          12/3/18 15:43
maintenance
owner
acknowledge
Source
Impact
FirstNotify
ClearOnAcknowledge
EventType
Category
                    
```

HISTORICAL LOCKDOWN DURATIONS

Year	Button location	Reader type & count	Lockdown completed in:
2011 v6.0.148	Forsythe Hall	WIRED - 741	3 seconds
	Forsythe Hall	WIRELESS - 125	1 minute
2012 v6.4.500	Forsythe Hall	WIRED - 952	4 seconds
	Forsythe Hall	WIRELESS - 144	1 minute
2014 v6.6.415	Forsythe Hall	WIRED - 2174	10 seconds
	Forsythe Hall	WIRELESS - 204	5 minutes 30 seconds
2015 v6.6.415	CPA	WIRED - 2199	19 seconds
	CPA	WIRELESS - 233	5 minutes 35 seconds
2016 v6.6.415	Forsythe Hall	WIRED - 2343	3 seconds
	Forsythe Hall	WIRELESS - 302	5 minutes 12 seconds
2019 v7.3.345.634	Forsythe Hall	WIRED - 2635	7 seconds
	CPA	WIRED - 2635	6 seconds
	GSB	WIRED - 113	2 seconds
	Forsythe Hall	WIRELESS - 374	4 minutes 43 seconds
	CPA	WIRELESS - 374	3 minutes 11 seconds
	GSB	WIRELESS - 146	1 minute 14 seconds

LESSONS LEARNED

Lenel Lockdown “Deactivated” email notification

There are email notifications sent from Lenel when a lockdown input device is “Activated” or “Deactivated”. The issue that was discovered during this year’s test is that the “Deactivated” notification is not sent when a lockdown is actually “Restored”. Currently the “Deactivated” notification is triggered when a depressed lockdown button is physically twisted and returned to the “normal” state which doesn’t trigger “Restore” command. The team will need to investigate how to program a notification triggered by a “Pulse” command sent to the lockdown input device.

“Phantom” door failures

During this year’s test there were some “phantom” door failures that didn’t make sense at the time of testing. After an investigation into the failures in January it was discovered that maintenance staff in a building disconnected power to a few doors in buildings to secure doors over the Winter Break. This was surprise to the team and building manager who were not aware of the “maintenance” done by the building staff.

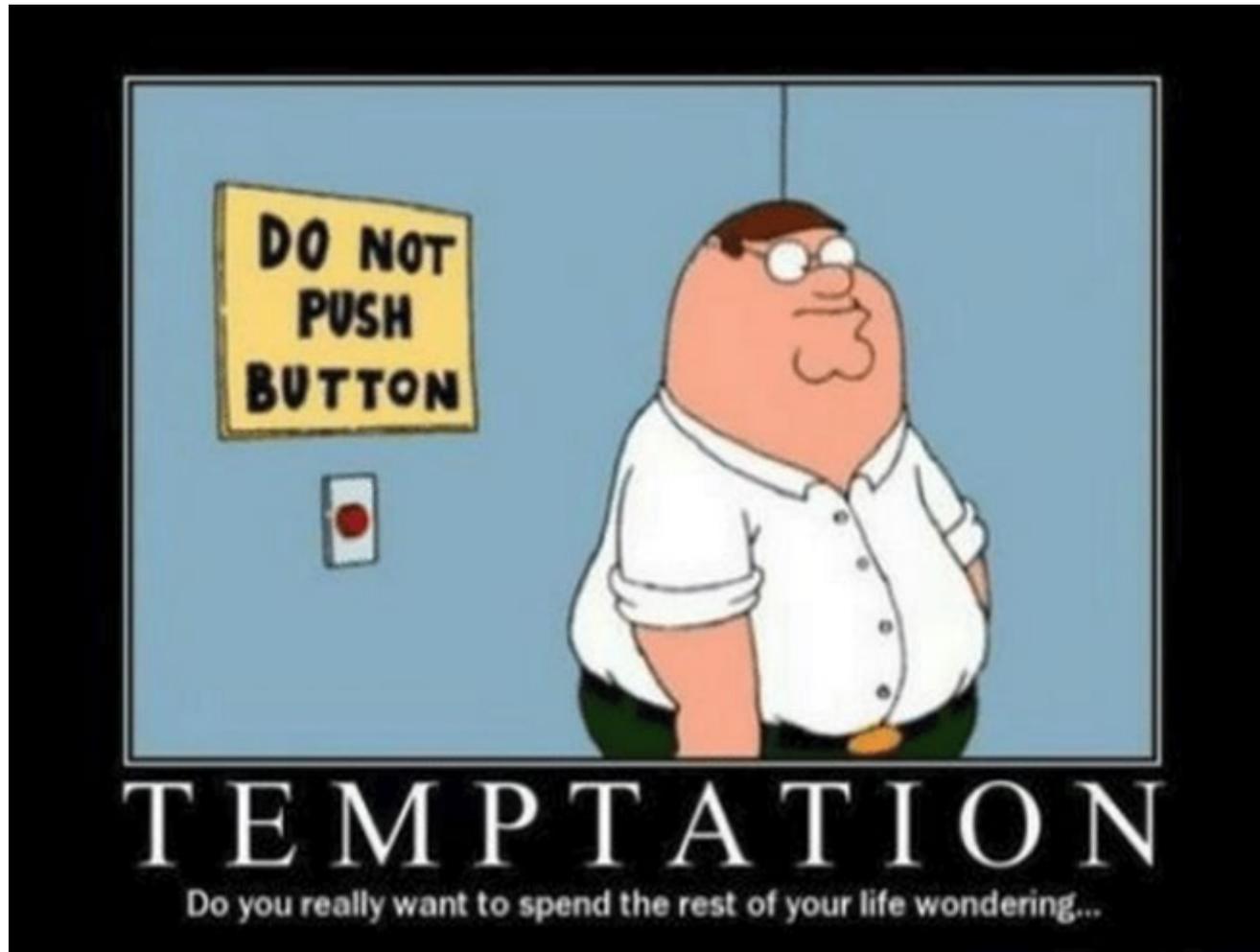
ITOC ring down line

There is a special line in Forsythe Hall for ITOC to use to contact the City of Palo Alto Dispatch Center directly without dialing a phone number. When an inquiry was made to the CPA Dispatch Center about the ring down line no one from the dispatch center was aware of this feature or what telephone number the ring down line called.

Resources (People)

This year the lockdown test was performed by 3 staff members from the Card Services Technical team and 1 staff member from the ID Card Office. This was the 2nd year that the same 3 staff members participated in the lockdown preparations/testing and cross trained together. Now that all 3 staff are trained on the lockdown preparations/testing future tests could be done with 2 Card Services Technical staff members (at a minimum) but having 3 made coordinating and testing with other staff/groups easier.

IT WAS BOUND TO HAPPEN EVENTUALLY



Questions?



THANK YOU !!!!!



Jonathan Randolph

Application Administrator/Software Developer

jrandolp@stanford.edu

650-723-1853