



Access Control | Preventive Maintenance

HELUG 2019

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Congratulations! **IT'S AN ACCESS CONTROL SYSTEM!**

You've run the gauntlet,
navigated the maze,
received initial funding,
and installed the system.

Now what?



Congratulations! **IT'S AN ACCESS CONTROL SYSTEM!**

An aerial photograph of a large, intricate maze made of green hedges. A single path winds through the maze, starting from the bottom left and moving towards the top right. The maze is composed of many interconnected paths and dead ends, creating a complex pattern of green walls.

How do you manage/fund
system maintenance?

How do you manage/fund
refresh? growth? migration?



Make it sustainable

PREVENTIVE MAINTENANCE AT STANFORD

DAILY OPERATIONS

Staffing
Software, hardware
Repairs and maintenance

FUTURES

Incremental growth, new installations, SYSTEM REFRESH

Establish a business model to support ongoing operations, including futures

DAILY OPERATIONS

System and application administration



Installation and Maintenance



Networking Systems



IT Operations Center (24x7)



Lock Shop



Building Managers



Our primary staff are the application administrators
(3 admins and 1 developer)

We pay for portions of staff from other groups
for daily support

Lock Shop has
some central
funding;
some we fund

Building
Managers take
care of local
access

DAILY OPERATIONS

System and application administration

Installation and Maintenance

Networking Systems

IT Operations Center (24x7)

Lock Shop

Building Managers



All funded by reader rate
\$29/reader/month



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Lock Shop has some central funding; some we fund

Building Managers take care of local access

PREVENTIVE MAINTENANCE FUTURES

I need another reader



Moved from rate model to time and materials for installations – full cost recovery

New buildings and projects



New buildings include access control in the project costs, then the department pays maintenance

This stuff gets old...



Many people run the equipment until it fails!
Even if you wait for it to fail, you need a revenue stream to cover costs

ALTERNATIVES



OPTION 1 **Run until it fails**

Go under the wall

- Need funding for replacements
- What if a LOT fails?

ALTERNATIVES



OPTION 2

Fund as needed

Go over the wall

- Apply for central funds on project basis
- Apply for central funds as needed

ALTERNATIVES

The background features several 3D arrows in blue, yellow, and red, pointing upwards and to the right. In the bottom right corner, there are several orange wooden blocks stacked together. The overall scene is set against a light, neutral background.

OPTION 3

Have a plan

Go through the wall

- Determine the life of the equipment
- Determine the cost of replacement
- Establish funding source through rates or central funds

Our decision?

HAVE A PLAN!



Worked with VAR to identify reasonable life of equipment

Worked with Finance to identify funding alternatives

Developed a model that would reflect funding for daily operations as well as refresh

BUILDING A PLAN FOR GETTING FROM *DAILY* TO *FUTURE*

DETERMINING FACTORS

DAILY
OPERATIONS

Need to fund people (system and application administrators, developer, support staff)

Need to fund break/fix repairs and maintenance

Track cost of people, software, hardware

Develop a model to cover all current and projected costs

FUTURES

BUILDING A PLAN FOR GETTING FROM *DAILY* TO *FUTURE* MODEL

EQUIPMENT LIFE

OPTIONS:

- 10 years – conservative
- 12 years – realistic
- 15 years – taking chances

FORMULA

- Determine weighting of parts
- Various equipment life lengths
- Growth, use
- Operational environment
- Interruption to essential ops

RESEARCH

- Reach out to peers for reviews/recommendations on devices, maintenance, etc.
- HELUG listserve

Develop a model to cover all current and projected costs

FORMULA

Building Access Liability Forecast				
	Current Qty (Used to Determine Weight)	Weight	Unit Cost (example, not actual)	Cost per Door
<u>Wired:</u>				
LNL-8000	350	0.14	500	70
LNL-3300	350	0.14	2,000	280
LNL-2220/LNL-2210	15	0.01	1,500	9
LNL-1100	350	0.14	600	84
LNL-1200	450	0.18	600	108
LNL-1320	40	0.02	500	8
LNL-1300	2500	1.00	150	150
Reader	2500	1.00	350	350
DS160 (REX)	150	0.06	75	5
Labor (incl activation & proj mgmt)	n/a	1.00	1,500	1,500
Avg Cost Wired				2,494
				\$2500
<u>Wireless:</u>				
WAP - ILS	140	0.51	500	257
WAP - Schlage	2	0.50		
Reader - Wireless ILS	272	1.00	1,000	1,000
Reader - Wireless Schlage (incl mobile)	4	0.01	1,000	15
Labor (incl activation & proj mgmt)	n/a	1.00	950	950
Avg Cost Wireless				2,222
				\$2200
<u>Offline Locks:</u>				
Mortise Reader	0	-	600	-
Cylindrical Reader	29	1.00	500	500
Labor (incl activation & proj mgmt)	n/a	1.00	400	400
Avg Offline Lock				900

Volumes	YEAR 1	YEAR 2	YEAR 3
Number of Lenel Doors Installed (Wired)	100	350	200
Total Number of Lenel Doors (Wired)	100	450	650
Number of Lenel Doors Installed (Wireless)		25	150
Total Number of Lenel Doors (Wireless)		25	175
Number of Lenel Doors Installed (Offline)			10
Total Number of Lenel Doors (Offline)			10
Total Number of Refresh Doors	100	475	835

Cost rise on hardware	1%
Cost rise on labor	3%
Years of Life	12

TOTAL LIABILITY

LIABILITY	YEAR 1/11	YEAR 12	YEAR 13	YEAR 14	YEAR 15	YEAR 16	YEAR 17
Wired		25,000	875,000	50,000	--	--	--
Wireless			55,000	330,000	--	--	--
Offline							--
TOTAL		25,000	930,000	380,000	--	--	--

Funding Requirement
 How much you will need each year going forward?
 Actual/year? Bundled \$1,335
 Smoothed $(25+930+380)/3 = \$445$

QUESTIONS AND DISCUSSION



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