

Dell Data Security Foundations Course Engages Learner in Visual, Interactive Way

Dell Technologies Education Services

Best Use of a Blended Learning Program

November 2019



Company Background

DELL Technologies

Company-at-a-Glance	Dell is an American multinational computer technology company based in Round Rock, Texas, that develops, sells, repairs and supports computers and related products and services.
Headquarters	Round Rock, Texas
Year Founded	1984
Revenue	\$90 billion
Employees	145,000
Global Scale	Global
Customers/Output, etc. (Key customers and services offered)	Dell sells personal computers (PCs), servers, data storage devices, network switches, software, computer peripherals, HDTVs, cameras, printers, MP3 players and electronics built by other manufacturers. The company is well-known for its innovations in supply chain management and electronic commerce, particularly its direct-sales model and its “build-to-order” or “configure to order” approach to manufacturing — delivering individual PCs configured to customer specifications.
Industry	Technology Industry
Stock Symbol	Dell
Website	Dell.com

Budget and Timeframe

Number of (HR, Learning, Talent) employees involved with the implementation?	One Scrum Master, one Stakeholder Manager, one Learning and Design Consultant, 2½ Developers and one Instructor
Number of Operations or Subject Matter Expert employees involved with the implementation?	One stakeholder and four SMEs
Number of contractors involved with implementation	None
Timeframe to implement	Nine months
Start date of the program	Jan. 31, 2019

Business Conditions and Business Needs

Dell Technologies Education Services' Line of Business utilized a one-time, two-week training program, held once per quarter, to train anyone coming into the organization on the products its team supports. When an employee was hired or transferred into their business, he/she would receive the training at some time during their first quarter and that historically was usually at least a month into the program. Therefore, in their first month of employment, the employee was receiving only mentor-style training and pieced information until the class was scheduled and time was made to leave their daily work for the two-week class.

The class was a 10-day course where an introduction of the products would happen on day one, then eight separate training classes would be conducted over the next eight days covering eight different products. A final, comprehensive exam would be given on the final day. Based on accumulated feedback from the students and instructor prior to and after the class, this training method led to a lot of confusion. Prior to the class, students expressed feelings of confusion, stress and anxiety as they were expected to provide technical support for products they've never been trained on. Though the class did fill content gaps for the learners, who at this point were mostly self-sufficiently doing their jobs, feedback after the class indicated that the class itself consisted of a lot of overlap and duplication because each product training course was created in a silo and included the same topics which had overlapping content. The topics were:

- Intro
- Installation
- Setup Features

- Managing Policies
- Troubleshooting
- Recovering
- Uninstalling

For instance, of the eight products, seven of them are installed the same way, using the same download file and the same installation wizard. The only difference is by checking the box of the product the customer wants installed. Therefore, that installation process would be covered seven separate times in the two-week class.

In addition to these content issues, this support business was looking to expand its current support from two primary bases in the United States to one more location in the United States and two bases globally, so it would no longer be feasible to send all employees to a class for two weeks with travel, hotel and trip expenses. The sales and deployment teams are not congregated in specific locations; they are spread out globally.

Finally, it was mentioned that all employees were scheduled for the class once a quarter; but to elaborate on that, it did not matter what level of support the employee was hired in at. Whether they were part of the deployment team and would not provide technical support or if they were from the Sales team, they would get the same level of training. So, Level 1 support agents received the same training as Level 3 support agents because the content was focused on the products they needed to support, and not the learner and what type of support each level is assigned to give. The content was too deep and complex for Level 1 agents, deployment agents and the Sales team but not deep enough for Level 3 agents. Then, if a Level 1 support agent was promoted to be a Level 2 support agent, no additional training was provided. Those students were expected to remember the training from their original quarter.

Due to these issues, the Learning Consultant, together with the expertise of the Instructor, proposed the blended learning program discussed in this submission form.

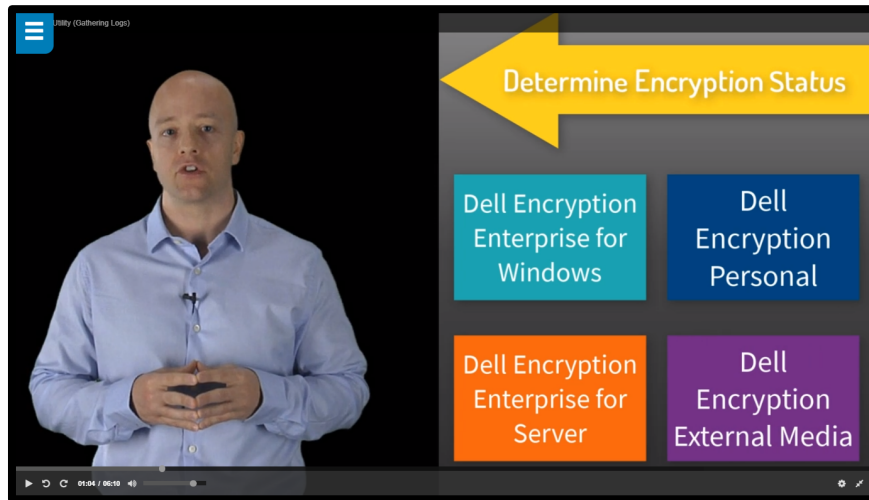
Overview

This blended-learning program included four delivery methods:

- On-Demand Videos
- On-Demand Labs
- Social Media Activities
- Exams

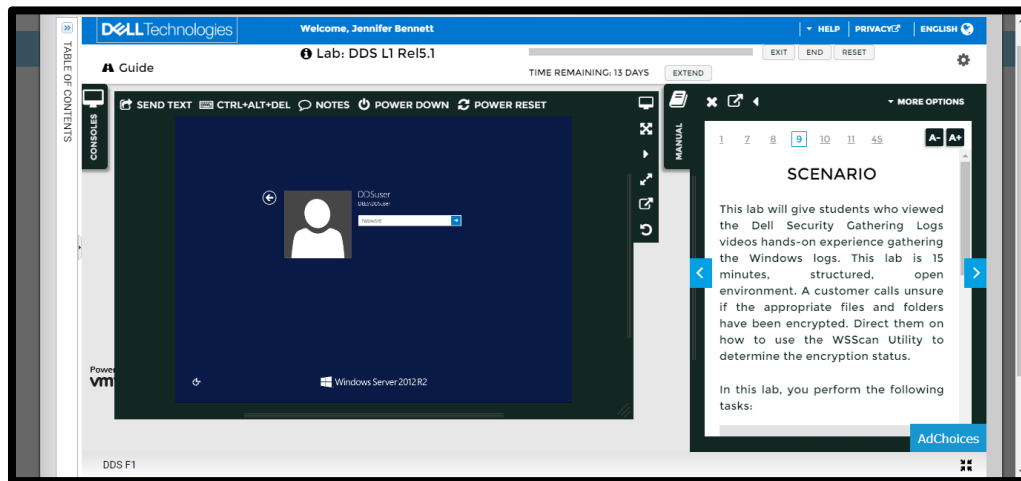
The On-Demand videos were comprised of animation, lightboards, live demos, voice-overs and interactivity (pop-up questions). Each video was designed with specific content in mind and therefore, each video is very different from a content perspective, with some primary guidelines. Each video was to be no more than 10 minutes long (with an average of six minutes), each video would have the same intro and exit effects and each video would be hosted on Dell's internal site (Edutube.com).

Figure 1: On-Demand Videos on Dell's Internal site (Edutube.com)



All illustrations provided by Dell Technology Education Services

The On-Demand labs utilized a live, on-demand environment for all but two labs. This environment allowed the learner to click anywhere, get real feedback and receive pop-ups for any incorrect responses, but in a safe setting. The On-Demand lab has a panel which houses the lab instructors and can give hints where appropriate. The two labs which couldn't be developed live as they required external actions (i.e., Using a flash drive to proceed) were created as simulations, housed in the same user interface for a consistent look and feel to all labs.

Figure 2: Example Scenario


The Social Media activities required the learner to log into Dell's internal Social Media site (Chatter) to answer the designated question about the content and then comment twice on someone else's posts. The questions posed in each activity required the learner to obtain the information in the same way he/she would in their daily job and did not rely on the training content for "the right answers." For instance, the training did not cover the installation requirements for each product as in the former two-week class. Instead, the training guided the learner to the installation guide to look up the requirements. This was done both in the class and in the activity to reinforce looking up the content where it is most updated, as installation requirements can change with each release. The students should review the installation guide each time they are installing the product. The social media site was monitored by the instructor and at least three SMEs, who would give guidance and corrections as necessary. The social media site is also the location where any student can go for help with any portion of the class. This allowed them access to an instructor, SMEs and other classmates (before, during or after the class) for casual help without having to navigate an official form/request and without giving out specific contact information to learners.

Figure 3: Dell Security Activity


ACTIVITY
03
Installing DOS Products

Dell Security Activity
Installation Pre-Requisites

ALL ABOUT ACTIVITIES

What to know.
The various activities in this course have been designed to ensure you have the knowledge and skills required to do your jobs at the end of the course. Therefore, each activity is mandatory for course completion whether you take the course independently or with others in a cohort.

What to do.
Bookmark the new [Dell Data Security Training Chatter](#) site.

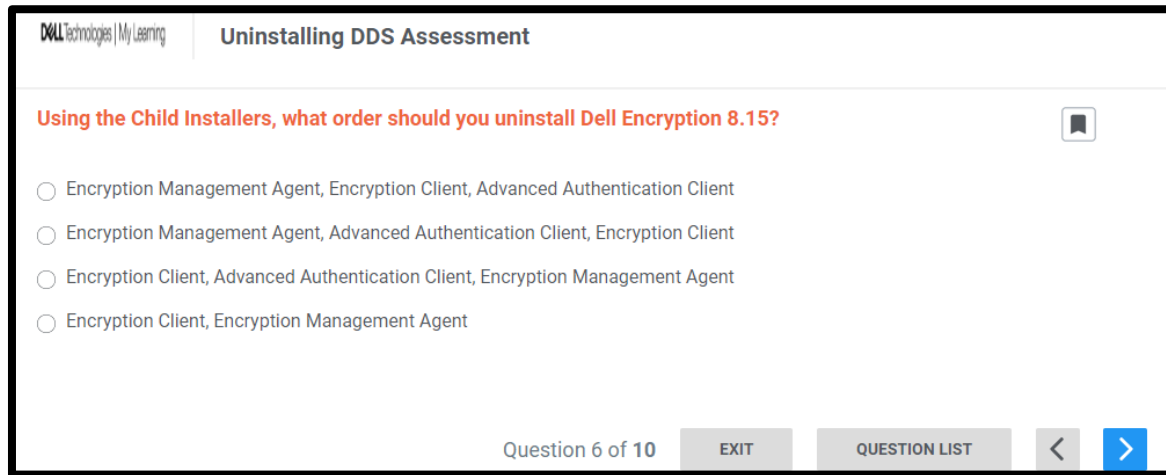
Instructions:
Use the videos/resources provided in the lesson to post at least once and comment on another post at least twice via Chatter (See side panel to join the conversation!).

Do you know Dell Security's super sweet suite of products? Prove it!

<p>Post Once</p> <p>Name a couple of each pre-installation considerations from Hardware, Software and Operating System requirements for Dell Encryption Enterprise.</p>	<p>Comment Twice</p> <p>Add more installation prerequisites to someone else's post. Whoever adds the last prerequisite for that product will win bragging rights!</p>
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Final Exam

The final exam was housed in Dell's primary testing software (Saba) so that the exams were trackable and official. There is a 10-question test at the end of each lesson and a final, comprehensive exam at the end of the program. A big change to the test questions is that half of them are knowledge questions, but the other half were designed as scenario-based learning. Many of them require the use of the On-Demand labs and admin guides to determine the right answer. For instance, for one task a support agent needs to pull the logs for the device having issues. The scenario in the exam would require the learner to log into the On-Demand interface, pull the logs and look them over for the error. The answers would consist of viable options and the only way to determine the correct answer is to pull the logs and review them. This was a significant step forward in the testing process.

Figure 4: Uninstalling DDS Assessment

The goals established through implementing this process included:

- Making quality, on-demand training available to all employees
- Providing the ability to review content at later times
- Removing duplication of content and reducing the training time for new employees by half.
- Chunking out the content so customized learning paths can be created
- Improving business support escalation rates:
 - Reduce escalations of Encryption Personal to 16% (20% less)
 - Reduce escalations of all DDS products to 25% (30% less)
 - Relieve Level 2 support of approximately 130 support calls per year

Early in the 2019 training year, most of those goals were accomplished. The employees have quality, on-demand training with the ability to review and the active class time is only 25 hours for the largest learning path. As far as the business requirements, in this first quarter, Personal Encryption escalations have been reduced to 16%, all escalations have been reduced to 17% and the number of support calls is down by 29. These numbers will continue to be reviewed throughout the year.

This specific program is focused on the products of a single line of business that Dell sells and supports, so it was not required company-wide; however, it is available company-wide internally to all employees interested learning about this content.

This program tied into the organizational objectives of the business for all of the reasons discussed above, but it also tied into the organizational objectives of the Dell Technologies

Learning organization. The learning organization is under new leadership and is excited about the future of training and is encouraging its employees to utilize the technologies available to design and develop next-generational training.

Design of the Program

This blended learning program was designed for its audience in two ways:

First, the content itself was designed specifically for the learner and their job requirements. In this case, the Level 1 Support Agent, Deployment Agents and the sales team take this course. In future additions to the training program, other learners have been identified as potential targets including:

- Level 2 Support Agents
- Level 3 Support Agents
- Stakeholders
- Customers

Second, the training program was designed to be completely global and taken as time is available on an as-needed basis. A Support Agent in Asia can complete their training in less than a week, all at one time, or a new Support Agent in Europe can complete their training in small portions every day to finish in a month. A returning Support Agent in Round Rock, Texas, can pick and choose the content they need when they need it, while a Sales Agent can complete their training in a single afternoon.

Delivery of the Program

The training program was deployed using an internal interface, called the Learning Studio. It is a separate interface than Dell's traditional Learning Management System (SABA) and is designed as an interactive learning software that personalizes learning to the individual learner by analyzing the interests in the learners' profiles and using IA to further determine what learning opportunities the learner should be offered. It comprises learning opportunities from Dell's internal Edutube.com site, Dell's Learning Management System, LinkedIn Learning, Ted Talks and individually created content.

The reason this interface was chosen to house the content of this blended-learning program is that it accepts many types of content: videos, links, PDFs, polls, quizzes and more. That content can then be organized into Channels, Learning Pathways, Groups and Carousels (for featured content). This was important as the content contained four delivery methods, and the delivery mechanism needed to ensure a clear learning path for the learner, removing user interface ambiguity and confusion.

On the Channel created specifically for this line of business, there is a learning path for the Level 1 Support Agent, the sales team, and the deployment team.

Change Management Efforts

As the course program was developed, several challenges were faced.

There were audio issues, graphics issues, changes to processes and time delays, but each challenge was taken on one at a time. Some were corrected outright, while others needed to have work-arounds. For instance, the local studio that the instructor used needed to upgrade their equipment, obtain the light board and implement process changes to accommodate the tight schedule and deliver a quality product. The On-Demand environment and labs had to be created from scratch and encountered several challenges, including certain labs requiring external modification (i.e., an USB flash drive), which then needed simulations for the two with this extra requirement.

Nothing was detrimental, but each challenge was a both a delay and a learning opportunity. The content was the least of the problems, but since almost every interface used (the video interface, the labs interface, the social media interface and the Learning Studio) was new to the development team, new processes had to be discovered. The team was excellent at documenting all issues and solutions along the way and will be trailblazers for other training teams at Dell.

Change Management of the content has been detailed by the team and approved by the Stakeholders and includes a 12-month review cycle of content, evaluation of the updates, and implementation after approval. Because of the design and delivery methods, it will be easy to add additional content or update content as needed (as all content is chunked out in several videos less than 10 minutes long).

Measurable Benefits

The measurable benefits to the organization focused on the number of support calls being escalated to higher level Support Agents. There are currently fewer Level 2 Support Agents than level 1 Support Agents — and even fewer Level 3 Support Agents — so resolving customer issues at the Level 1 Support Agent level reduces the pressure and stress on the higher-level agents, allowing time for them to focus on the more complex issues coming in. The improvements seen so far this year are:

- Reduced escalations of Encryption Personal from 28% to 18% (10% less)
- Reduced escalations of all DDS products from 35% to 22% (13% less)
- Relief of up to approximately 29 Level 2 support escalations

Though these numbers are good, they are not yet to the level expected as not all employees have been scheduled to complete the training. It will take more time to ensure all Level 1 Support Agents have the bandwidth and opportunity to complete this training program focused on their specific job activities; however, the program is on-track to meet the business training goals by the end of the year.

Not only does reducing the number of escalated calls relieve the time and pressure challenges the business has encountered for their high-level Support Agents, but it also improves the customer experience when reaching out for support. If the customers' issues can be resolved by the first agent they talk to, then their NPS score will reflect their satisfaction and decrease hold times and call back periods for future customer support calls.

Overall

The key findings of this project include the amount of research and exploration time it took to determine the right user interfaces for an innovative project like this one. The implementation time to learn new processes and rework extended this project from seven months to nine months, but with the development sprints at the end of the project being about twice as efficient as the sprints at the beginning. There were quite a few challenges (discussed in the Change Management Efforts section) that now have documented solutions which will be used in the next phase of development of this project, and across training teams at Dell.

The next phase will be the Level 2 support training program aimed at Level 2 Support Agents, which will include all of Level 1 and additional content in the same formats. This training program will continue to be expanded until all approved products in this line of business and all the roles engaged on these products have their own specific learning paths. The future of this program is very exciting.

Appendix
Figure 5: Dell Data Security Training Development Project

L1 Learning	Video	Labs	Activity	Exam	Totals
Total Assets	41	14	10	7	72
Total Length (mins)	287	210	100	60	657.0
Calculations of Dev time	7	6	1	4	
Total Dev Time	2009	84	10	28	2131.0

Getting Started with DDS						
Asset Name		Video	Labs	Activity	Exam	Length
Introduction to Dell Data Security - Level 1 Support Training	M1_V00	X				0:06
DDS Overview	M1_V01	X				0:06
Encryption 101	M1_V03	X				0:06
Servers Intro	M1_V04	X				0:06
Encryption Intro (Part 1)	M1_V05	X				0:06
Encryption Intro (Part 2)	M1_V06	X				0:06
Threat Protection Intro	M1_V07	X				0:06
OEM Intro	M1_V08	X				0:06
End of Life Intro	M1_V09	X				0:06
Product Identification	M1_A01			X		0:10
User Interfaces	M1_V10	X				0:06
Product Overview	M1_A02			X		0:10
Product Overview	M1_E01				X	0:10
Total Lesson Content:		9	0	2	1	1:30

Installing DDS Products						
Asset Name		Video	Labs	Activity	Exam	Length
Dell Digital Delivery Tool	M2_V01	X				0:06
Installation Prerequisites	M2_V02	X				0:06
Installation Prerequisites	M2_A01			X		0:10
Master Installer	M2_V03	X				0:06
Individual Installer	M2_V04	X				0:06
Lab 1: Installing via the Individual Installer (EE)	M2_L01		X			0:15
Activating Encryption Products	M2_V06	X				0:06
Installing	M2_A02			X		0:10
Installing Threat Defense	M2_V09	X				0:06
Lab 2: Installing Threat Defense	M2_L02		X			0:15
Installation	M2_E01				X	0:10
Total Lesson Content:		6	2	2	1	1:46

Gathering Logs						
Asset Name		Video	Labs	Activity	Exam	Length
Logs Intro	M3_V01	X				0:06
DiagnosticInfo Utility	M3_V02	X				0:06
Pulling Mac Logs	M3_V03	X				0:06
Verbose Logging	M3_V04	X				0:06
CMG Shield Log	M3_V05	X				0:06
MSI Log	M3_V06	X				0:06
EMS Service Log	M3_V07	X				0:06
CMG Sweep Log	M3_V08	X				0:06
PCS.Log	M3_V09	X				0:06
Lab 3: Gathering Logs (Win)	M3_L01		X			0:10
Windows Logs	M3_A01			X		0:06
Lab 4: Gathering Logs (Mac)	M3_L02		X			0:15
Mac Logs	M3_A02			X		0:10
WSScan Utility	M3_V10	X				0:06
Lab 5: WSScan Utility	M3_L03		X			0:15
Virtual Server Logs	M3_V12	X				0:06
Lab 6: Virtual Server Logs	M3_L04		X			0:15
Threat Defense Logs	M3_V13	X				0:06
Logs Exam	M3_E01				X	0:10
Total Lesson Content:		12	4	2	1	3:10

Encryption Personal						
Asset Name		Video	Labs	Activity	Exam	Length
Encryption Personal Intro	M4_V01	X				0:06
EP Entitlements	M4_V02	X				
Lab 7: EP Entitlements	M4_L01		X			0:15
EP Initial Configuration	M4_V03	X				0:06
Lab 8: Configuring Encryption Personal	M4_L02		X			0:15
Getting to know the LMC	M4_V04	X				0:06
Modifying Policies	M4_V05	X				0:06
Lab 9: LMC	M4_L03		X			0:15
LMC	M4_A01			X		0:30
Troubleshooting EP	M4_V06	X				0:06
Supporting EP	M4_A02			X		0:10
LSA Recovery Tool	M4_V07	X				0:06
Lab 10: LSA Recovery Tool	M4_L05		X			0:15
CmgAu Recovery Tool	M4_V08	X				0:06
Lab 11: CmgAu Recovery Tool	M4_L06		X			0:06
Encryption Personal	M4_E01				X	0:10
Total Lesson Content:		8	5	2	1	3:24

Mozy by Dell						
Asset Name		Video	Labs	Activity	Exam	Length
Introduction to Mozy	M5_V01	X				0:06
Creating a Mozy User	M5_V02	X				0:06
Lab 12: Creating a Mozy User	M5_L01		X			0:15
Gathering Mozy Logs	M5_V03	X				0:06
Lab 13: Gathering Mozy Logs	M5_L02		X			0:15
Mozy	M5_A01			X		0:10
Mozy	M5_E01				X	0:10
Total Lesson Content:		3	2	1	1	1:08

Uninstalling						
Asset Name		Video	Labs	Activity	Exam	Length
Uninstalling DDS on Windows	M6_V01	X				0:06
Uninstalling DDS on Mac	M6_V02	X				0:06
Lab 14: Uninstalling	M6_L01		X			0:15
Uninstallations	M6_A01			X		0:10
Uninstallations	M6_E01				X	0:10
Total Lesson Content:		2	1	1	1	0:47

Wrap Up						
Asset Name		Video	Labs	Activity	Exam	Length
Additional Resources	M7_V01	X				0:06
Final (Comprehensive) Exam	M7_E01				X	2:00
Total Lesson Content:		1	0	0	1	2:06

About Brandon Hall Group

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