

Case Study & Lessons Learned

# **Classroom Collaboration On A Large Scale**

Presented By:

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# THE COMPUTER SOLUTION COMPANY

- Founded in 1981
- Based in Richmond, VA
- Consistently recognized for quality of technical services
  - Microsoft Worldwide Partner Conference Technology Innovation Award Finalist
  - Microsoft Mid-Atlantic Teamwork Award
  - Microsoft Mid-Atlantic Loyalty Award
  - Infineon Technologies' Technology Innovation Award
  - Microsoft Mid-Atlantic Loyalty Partner Award
  - Microsoft Mid-Atlantic Teamwork Award
  - **Microsoft Worldwide Information Worker Partner of the Year**

**Providing Microsoft-centric consulting, application development and knowledge management solutions.**

# Agenda

- Background / Problem Description
- Solution Approach
- Technical Hurdles
- Lessons Learned
- Questions

# Virginia Beach City Public Schools

- ⦿ One of the largest school systems in Virginia and among the 50 largest school divisions in the United States (based on student enrollment)
- ⦿ Serves over 40,000 students
- ⦿ Facilities:
  - 56 elementary schools
  - 15 middle schools
  - 11 high schools
  - A number of secondary/post-secondary specialty centers
  - Meaningful Involvement of Community, Parents, and Partners

# The Original Problem...

- ① Students increasingly work with materials and assignments that are electronic in nature.
- ① Students need access to these materials during the school day and when they are at home.
- ① The school provides shared computer terminals for student use but they are difficult to maintain and secure.
- ① Students using usb drives, disks & etc are open to data loss risks and virus delivery problems.
- ① Students should have the ability to have a “portfolio” of work heading into college.

# Expanded problem

- ⦿ Teachers face many of the same issues that students face.
- ⦿ Students should be able to collaborate with teachers, classmates
- ⦿ Teachers should be able to store and share content that is applicable to the courses they teach
- ⦿ Teachers and students should be able to work collaboratively in a workspace for a given course

# Requirements

- ⦿ Web-based solution to make it accessible from school or home
  - Reduce existing machine administration and login maintenance
- ⦿ Secure storage for each student that cannot be shared between students that exists for the students entire career
- ⦿ Class areas where teachers can post schedules, assignments and materials
- ⦿ Facilitate the submission of student work towards assignments in a secured manner

# Requirements (cont.)

- Easy-to-use navigation system for students and teachers
- Automatic generation and maintenance of class site, teacher sites and student sites including access rights
- Complete training plan and documentation for training teachers and students

# Why SharePoint?

- ◎ Secure Web-based solution that can be exposed in the schools and at home
- ◎ Simple Interface
  - Easy to Upload Documents
  - Simple to Navigate
  - Teacher customizable without development
- ◎ Template & Development Support
  - Ability to build and customize the templates for the sites, libraries and lists
  - Ability to create web parts and aspx pages for custom tools
- ◎ Integration with Active Directory
  - Existing logins could be re-leveraged

Teachers

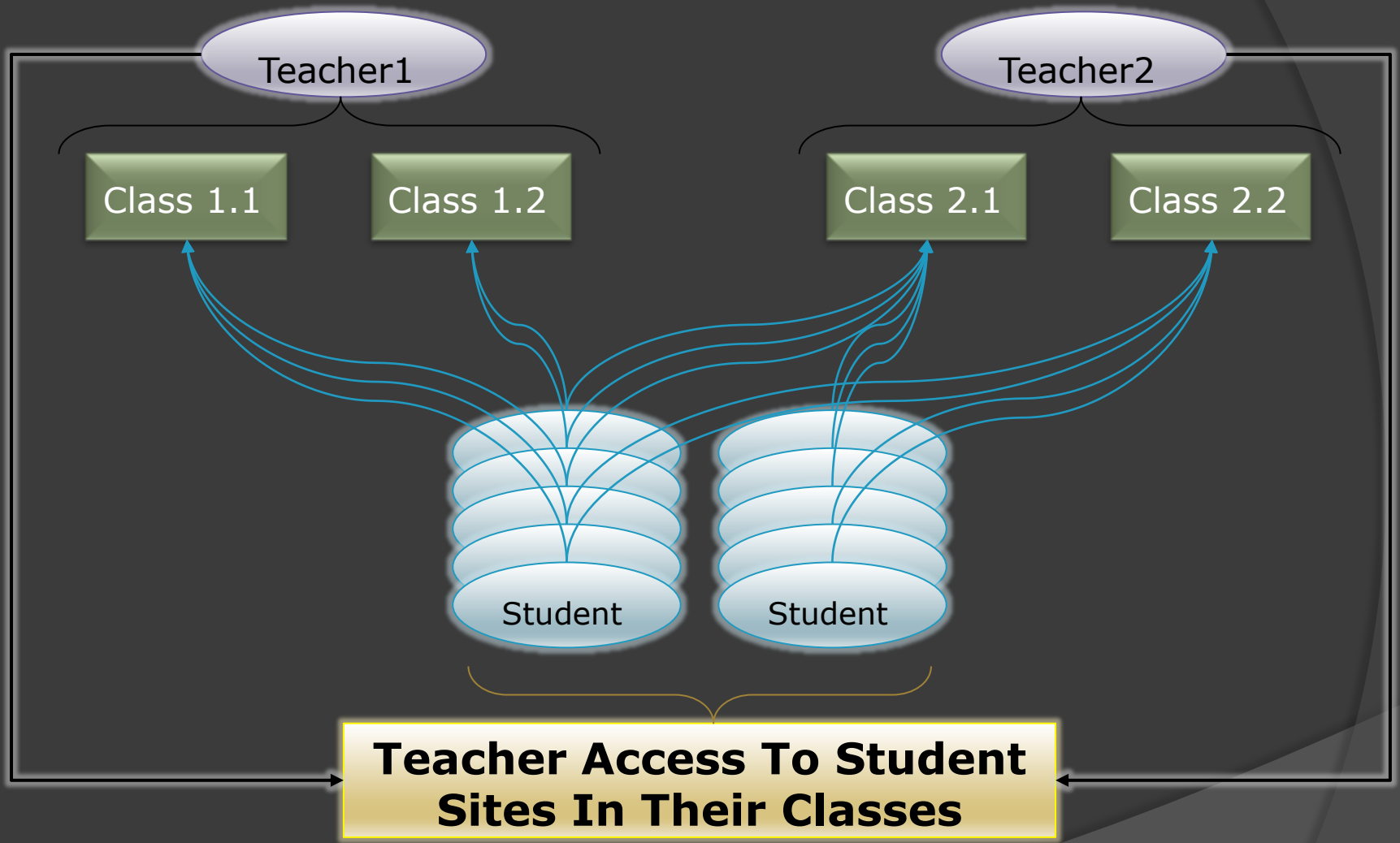
```
graph TD; Teachers[Teachers] --> Classes[Classes]; Teachers --> Students[Students]; Students --> Classes;
```

Classes

Students

# Custom Components

- ⦿ Automated Site Maintenance (Portal Manager)
  - A process executes that examines the VB Schools primary Student Information System
  - From this system the process takes many different maintenance actions. Including:
    - A new course is added
      - A class site(s) is generated and the appropriate teachers and students are assigned access
    - A new teacher is hired
      - A teacher site is generated and the teachers course load and students within these courses are loaded into views on that site.
    - Teacher A/Student A drops Course A and pickup Course B
- ⦿ Data Driven Linking
  - Students linked to Class Lists automatically based on the Student Information System
  - Teachers linked to Students and Classes – once again completely data driven web parts so as teachers change courses their course load and students within are dynamically updated



# Custom Features

- Students & Teachers can select to add Widget tools for traffic, weather, news headlines, research tools & etc..
- Teachers can store content in one place and share that content with multiple courses through a simple wizard.
- School based announcements targeted at specific grade levels are dynamically displayed on student workspaces.
- Centralized global links for important resources are pushed to every student & teachers site.
- Recycle Bin to quickly recover deleted items
- Improved work assignment tools
- Password Management
- Storage Meter – shows how much space you have used/remaining

# Screens

# Student Site

- View All Site Content
- Documents**
  - My Documents
- Lists**
  - Your Calendar
- Widgets**
- Global Links**
  - Microsoft SharePoint Help
- Recycle Bin

## Announcements

### Global Announcements

#### Who Has Access to the SchoolNet Parent Portal?

The SchoolNet Parent Portal is currently available to the parents of students enrolled in Corporate Landing Elementary, Green Run Elementary, and all middle and high schools. Parents of students ...

### Kellem High School

#### Seed grants sought for Summer 2009

Update: The deadline for the summer 2009 seed grants has passed. An announcement will be made soon. The Virginia Tech Carilion (VTC) School of Medicine and Research Institute invites proposals ...

### Landstown High School

There are no announcements to display.

New | Upload | Actions

Type	Name	Modified By
------	------	-------------

There are no items to show in this view of the "My Documents" document library. To create a new item, click "Add new document" below.

New | Actions

October, 2009 Expand All Collapse All

Sunday	Monday	Tuesday	Wednesday	Thursday
27	28	29	30	1
4	5	6	7	8

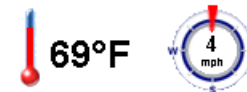
You are currently using 1.18 of 1024 MB.

Add/Edit Widgets

Change Your Password

Day	Bell	Course Title
A	1	Spanish 1
A	1	Social Studies 2

Your Weather for:  
**Virginia Beach, VA 23450**  
Lynnhaven MS



Click here to edit title Set Date

days hours minutes seconds

CHANGE SKIN

POWERED BY:

Get Widget

# Teacher Site

- View All Site Content
- Documents**
  - My Documents
- Lists**
  - Announcement 1
- Discussions**
  - CRS Conf Day 1
- Sites**
- Widgets**
- Global Links**
  - Microsoft SharePoint Help
- 

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#### First Hokie Stones set into VTC building façades

Daniel DiMarco, project architect at AECOM, ROANOKE, Va., August 14, 2009 – The Virginia Tech Carilion School of Medicine and Research Institute (VTC) passed a symbolic ...



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## My Documents

Type	Name	Modified By
	Testing	System Account
	List of Groups	Kay Walke (Test School)
	Middle School Print Poster	Kay Walke (Test School)
	necc2009	Kay Walke (Test School)
	schoolhouse	Kay Walke (Test School)
	Software Vista	Kay Walke (Test School)
	Student Portal Committee 10-02	Kay Walke (Test School)
	VBTP K-12 Comparison Chart 2008	Kay Walke (Test School)
	Virginia Beach Student Technology Proficiencies SchoolNet	Kay Walke (Test School)


You are currently using 2.87 of 1024 MB.

-  Add/Edit Widgets
-  Share Content to Classes
-  Change Your Password
-  Change Student Password

Day	Bell	Course Title	Students
A	1	Spanish 1	
A	1	Social Studies 2	

## Spelling Bee

difficulty level:  easy  hard  expert

 n. A metric unit of volume equal to 100 liters score: -

spell the word:

Spelling Bee provided by The Free Dictionary

# Class Site

- View All Site Content
- Documents**
- Lists**
  - Class Announcements
  - Class Assignments
  - Inbox
- Discussions**
- Shared Content**
  - My Documents - All Documents
- Sites**
  - Class Wiki
- Widgets**
- Global Links**
  - Microsoft SharePoint Help
- Recycle Bin**

## Class Announcements

- Refocused DeAngelo Hall Is Ready for Redskins** 8/28/2009 8:06 AM  
by Kay Walke (Test School)  
When Washington Redskins cornerback DeAngelo Hall first approached Mark Craig and asked for his help, Craig wasn't sure what to think. A popular boxing coach in the area, the 42-year-old Craig had just wrapped up his third summer working out with...
- Redskins will Go to the Playoff's** 8/28/2009 8:02 AM  
by Kay Walke (Test School)

Add new announcement

## Class Assignments

New | Actions | Settings

October, 2009 Expand All Collapse All

Sunday	Monday	Tuesday	Wednesday	Thursday
27	28	29	30	1
4	5	6	7	8
11	12	13	14	15

You are currently using 2.22 of 1024 MB.

- [Add/Edit Widgets](#)
- [Change Your Password](#)
- [Change Student Password](#)



## Inbox

Title Reviewed Assignment

There are no items to show in this view of the "Inbox" list. To create a new item, click "New" above.

Add new item

**Inbox: New Item**

 Save and Close |  Attach File | [Go Back to List](#)

Reviewed

Teacher has reviewed the submitted work

Title

Assignment

- (None)
- Assnmt00
- Assnmt01
- Assnmt02
- Assnmt03
- Assnmt04

ent this file is for.

**Inbox**

Reviewed  Title

 Created By

**Assignment : [Assnmt00](#) (1)**

Yes



Assnmt00-00000

Craig  
Student

**Assignment : [Assnmt01](#) (1)**

No













Assnmt01\_00000 **! NEW**

Craig  
Student

[Add new item](#)

## Class Discussion

 New Discussion |  Expand/Collapse

Subject	Replies 	Posted By 
<p> Assignment 1  NEW</p> <p>Are there other resources for historical weather information?</p>	1	Craig Student
<p> Assignment 1  NEW</p> <p>Check out <a href="http://www.srh.noaa.gov/ohx/educate/atc/history.htm">http://www.srh.noaa.gov/ohx/educate/atc/history.htm</a>. Use Google, msn.com or other search engine to search the web. Use entries like, "weather effect history". Don't put <u>quotes</u> around your entry unless you want the words to be treated as a phrase. <b>Experiment a bit and have fun!</b></p> <p>-- Terry Teacher</p>	0	Terry Teacher
<p> Assignment 1  NEW</p> <p>Thanks. Here is another great reference. <a href="http://www.reekielum.com/history.htm">http://www.reekielum.com/history.htm</a></p> <p>- Craig</p>	0	Craig Student

# Architecture

- 5 WFE Servers
- 2 App Servers
- Large Clustered SQL Server Set
- 4 Network Load Balancers (BigIP)
- 3 ISA Servers
- Numerous Test & Development Servers

# Technical Hurdles

- Sharing the Same Content in multiple site collections from one secured site
- Upgrade Limitations
- Single Sign On
- Targeted Announcements
- Student Password Resets

# Lessons Learned

- ◉ Always use Solution Packages for customizations
- ◉ STSADM & extensions are very scriptable but slow in mass
- ◉ Many smaller content databases are highly preferred to a few large databases
- ◉ Consider the right mix of different site collections in content databases
- ◉ Plan for Support Tools
- ◉ Utilize opt-in features when possible
- ◉ Migration operations will need lots of space

# What's Possible

- ⦿ Activity/Group Calendars
- ⦿ School intranet/extranet
- ⦿ Student Financial Account Management features
- ⦿ Community feedback and organization workspaces
- ⦿ Integration with Outside Schools & Classes (other districts)
- ⦿ Parent information website
- ⦿ Assignment grading and tracking

# Contact Information

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