



# WHAT'S AFTER VDI?

THE NEXT TECH FOR DELIVERING APPLICATIONS (ANYWHERE) TO STUDENTS

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# **I TRIED REALLY HARD**

- **FOR OVER 4 YEARS, I'VE BEEN TELLING ANYONE WHO WOULD LISTEN THAT WE NEED TO INVEST IN VDI – FOR STUDENT LAB USE AT LEAST.**
- **I'D GET NODS AND APPROVING SMILES AS I OUTLINED ALL THE BENEFITS... THE ONES EVERYONE IN THIS ROOM KNOWS WELL.**
- **THINGS WENT REALLY WELL TILL I GOT TO THE END AND TALKED ABOUT FUNDING A PILOT....**

**I TRIED REALLY HARD**

**● THEN...**



# **I TRIED REALLY HARD**

- **EVERY YEAR STORAGE (AND COMPUTE) TECHNOLOGY WOULD IMPROVE**
- **COSTS WOULD COME DOWN**
- **I FELT LIKE A SLOW MOTION AUCTIONEER...**

# **I TRIED REALLY HARD**

- **WE CAN GET STARTED FOR \$250,000... WHO'S READY TO CHIP IN!**
- **SIX MONTHS GO BY...**
- **DO I HEAR \$200,000?**
- **A YEAR...**
- **NOW WE CAN GET STARTED FOR ONLY \$125,000... \$80,000?**

# **I TRIED REALLY HARD**

- **AFTER ALL THAT EFFORT, PSU STILL HAS NO SIGNIFICANT VDI FOOTPRINT**
- **...AND WE HAVE 78 PHYSICAL COMPUTER LABS ACROSS CAMPUS**
- **...AND WE HAVE NO MONEY (JUST LIKE ALMOST ALL OF YOU)**
- **...AND I THINK WE'RE INCREDIBLY LUCKY THAT THIS IS THE CURRENT STATE OF AFFAIRS!**
- **(NOT SO MUCH WITH THE NO MONEY PART – BUT IT'S ALSO A CRITICAL FACTOR HERE)**

# YOU CALL THAT LUCKY?!

- **YES I DO AND HERE'S WHY...**
- **A FEW MONTHS AGO I DISCOVERED A “NEW” TECHNOLOGY THAT COULD ADDRESS THE CORE GOAL WE'RE TRYING TO ACHIEVE WITH VDI – ANYWHERE ACCESS TO APPS FOR OUR STUDENTS (AND ALL THE REST) – IN A FUNDAMENTALLY DIFFERENT WAY.**
- **THE IDEA ISN'T REALLY NEW – SEE NOVELL ZENWORKS, CIRCA 1993 – BUT THIS INCARNATION HAD SOME SIGNIFICANT ENHANCEMENTS OVER WHAT WAS AVAILABLE WAY BACK THEN...**

# YOU CALL THAT LUCKY?!

- **HERE'S THE THUMBNAIL...**
- **KEEP (OR REALLY IMPROVE UPON) VDI'S CONTROL FROM A SOFTWARE LICENSING STANDPOINT**
- **KEEP ACCESS CONTROL TIED TO INDIVIDUAL LOGIN CREDENTIALS**
- **MOVE THE HORSEPOWER PROVIDER FROM THE DATA CENTER TO THE CLIENT DEVICE**
- **GIVE UP SOME SUPPORT FOR END USER DEVICES (WINDOWS APPS ON WINDOWS CLIENTS) – FOR THE MOST PART (MORE ON THIS LATER)**

# **“CLOUDIFIED” APPLICATION DELIVERY**

- **STEP 1: PACKAGE AND PREPARE THE APPS FOR DELIVERY USING THE NORMAL INSTALLATION MEDIA – BUT IN A SPECIAL ENVIRONMENT, USING SPECIAL TOOLS.**
- **STEP 2: DECIDE ON THE RULES, CREATE THEM, AND ASSOCIATE THEM WITH THE APP**
- **STEP 3: DEPLOY TO THE DELIVERY ENVIRONMENT (WE CALL OURS “GUS-WARE”)**

# **“CLOUDIFIED” APPLICATION DELIVERY**

- **THE DATACENTER INFRASTRUCTURE TO SUPPORT GUSWARE FOR OUR ENTIRE CAMPUS IS ALMOST INCONSEQUENTIAL FROM A RESOURCE REQUIREMENT STANDPOINT... THAT AIN'T VDI!**
- **A “WEB SERVER” THAT USERS AUTHENTICATE TO AND FOR DOWNLOADING APPS (AND THE FREE APP “PLAYER”]**
- **A LICENSING SERVER TO ENSURE THAT THE RULES FOR EACH APP ARE ENFORCED**
- **A BACK END ADMINISTRATION SERVER**
- **A PLACE FOR THE DATABASE TO LIVE (OUR EXISTING SQL SERVER]**

# **“CLOUDIFIED” APPLICATION DELIVERY**

- **PERFORMANCE IS PHENOMENAL (MORE ON WHY AND HOW LATER)**
- **“ZERO TO AUTOCAD” IN 90 SECONDS ON MY LAPTOP (FOR THE FIRST RUN)**
- **LOCAL STARTUP TIMES THEREAFTER (WHILE APP IS IN PLAYER’S LOCAL APP CACHE)**
- **MOST MODERN WINDOWS MACHINES THAT STUDENTS BRING WITH THEM HAVE ENOUGH HORSEPOWER TO RUN EVEN THE HEAVYWEIGHT APPS REASONABLY WELL.**
- **VENDORS SOMETIMES LIE ABOUT MINIMUM SYSTEM REQUIREMENTS 😊**
- **WE WILL PUBLISH RECOMMENDED SYSTEM SPECS**

# PSU'S PLANS

- **OUR GUSWARE SITE IS UP AND RUNNING USING THIS TECHNOLOGY**
- **WE HAVE SEVERAL APPS PACKAGED AND DEPLOYED TO THE SITE**
- **PILOTING THIS TECHNOLOGY OVER THE SUMMER AND NEXT FALL WITH A 1 YEAR LIMITED LICENSE WE CAN UPGRADE TO AN UNLIMITED SITE LICENSE AT ANY TIME**
- **WILL TEST AND EVALUATE BOTH ON BYOD AND AS A WAY TO MAKE SPECIALIZED APPS AVAILABLE IN GENERAL PURPOSE LABS (PSU'S AXE LIBRARY FOR EXAMPLE)**
- **HAVE ABOUT A HALF DOZEN "WILLING HEART" PROFESSORS WHO VOLUNTEERED THEMSELVES AND THEIR STUDENTS TO PARTICIPATE**

# LONGER TERM PLANS

- **REDUCE PHYSICAL LABS BY 50% INITIALLY – MORE LATER**
- **MOVE TO AN UNLIMITED LICENSE FOR STUDENTS/FAC/STAFF (ROUGHLY \$68K/YR FOR PSU)**
- **DEPLOY CISCO HYPERFLEX (HYPERCONVERGED) NODE TO BEEF UP OUR VDI (FINALLY!) BUT ON A MUCH SMALLER SCALE THAN ORIGINALLY PLANNED.**
- **VDI HUGELY SIMPLIFIED - A COUPLE OF “GOLD IMAGE” CONFIGURATIONS PLUS “GUSWARE” – NOT DOZENS OF GOLD IMAGES. STUDENTS/FAC/STAFF LOG IN TO VDI AND USE GUSWARE SITE TO SELECT DESIRED APP**
- **VDI AS A “GAP FILLER” NOT A PRIMARY DELIVERY MECHANISM.**
- **(WHICH IS WHY I FEEL LUCKY WE DIDN'T GO “ALL IN” ON VDI EARLIER!)**

# ABOUT OUR VENDOR

- **SOFTWARE2 – ORIGINS IN THE U.K. – LARGE EUROPEAN FOOTPRINT FOR THIS PRODUCT**
- **HIGHER EDUCATION “VERTICAL” – THEY KNOW THE APPS WE USE AND HOW TO PACKAGE THEM**
- **SOFTWARE2 IS HERE AT MY URGING AND IS A SPONSOR OF CHECK THIS YEAR**
- **GROWING US FOOTPRINT – US SUPPORT STAFF NOW ON BOARD**
- **DAVID MILLER WILL TAKE US A LITTLE DEEPER INTO THE WEEDS ON THE TECHNOLOGY IN GENERAL AND SOFTWARE2 IN PARTICULAR.**



# THANK YOU!

- **I'LL STICK AROUND FOR DAVE'S PART AND BE AVAILABLE FOR QUESTIONS AFTERWARD**
- **TIM PEARSON /**
- **THANKS!**