

THE TECHSLAYER

CHRONICLES

TACKLING STORAGE AND
APPLICATIONS BACKUP
IN KUBERNETES

LIMITED EDITION



The TechSlayer Chronicles

Tackling Storage and Applications Backup in Kubernetes

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Lawrence Miller has worked in information security and technology management for more than 25 years. He received his MBA in Supply Chain Management from Indiana University and has earned numerous technical and professional certifications throughout his career. He is currently working as an IT security solutions consultant. He has previously worked as the Vice President of IT for a major Verizon reseller, director of IT and e-commerce for a retail merchandising company, and IT operations manager for a top 100 U.S. law firm. He served as a Chief Petty Officer in the U.S. Navy and is the author of more than 200 books on various topics including information security, cloud, unified communications and collaboration, storage, 5G, and the Internet of Things.

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Adira Adama, The Cloud Architect that will gain superhero status and become Captain Kasten

Dansa Moore, The DevOps Engineer that will also gain superhero status and become K10

Sam, Director of Application Development

Gabrielle, CIO

Maelstorm, The Cultivator of Chaos

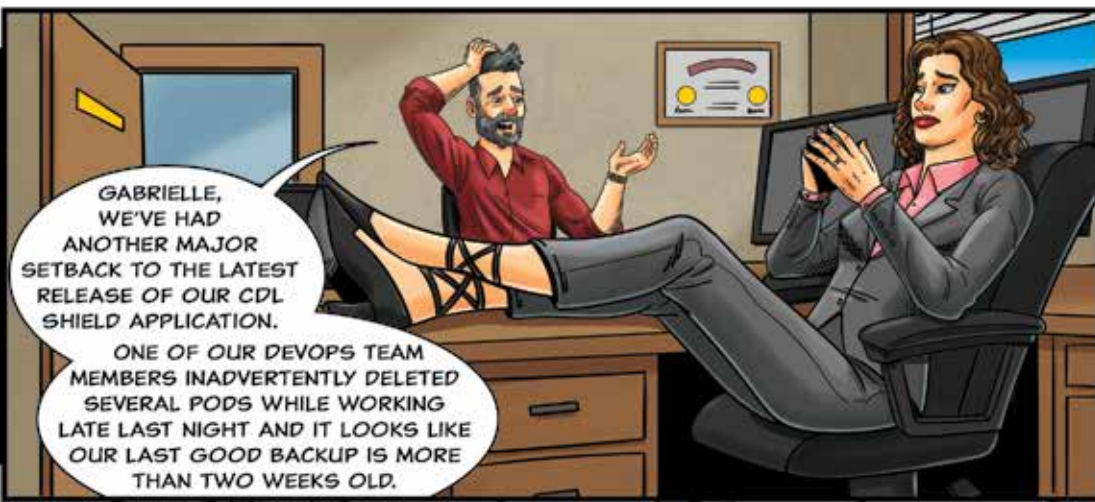
ChronoClepta, The Time Thief

About ActualTech Media

ActualTech Media is a B2B tech marketing company that connects enterprise IT vendors with IT buyers through innovative lead generation programs and compelling custom content services. ActualTech Media's team speaks to the enterprise IT audience because we've been the enterprise IT audience. Our leadership team is stacked with former CIOs, IT Managers, architects, subject matter experts and marketing professionals who help our clients spend less time explaining what their technology does and more time creating strategies that drive results.

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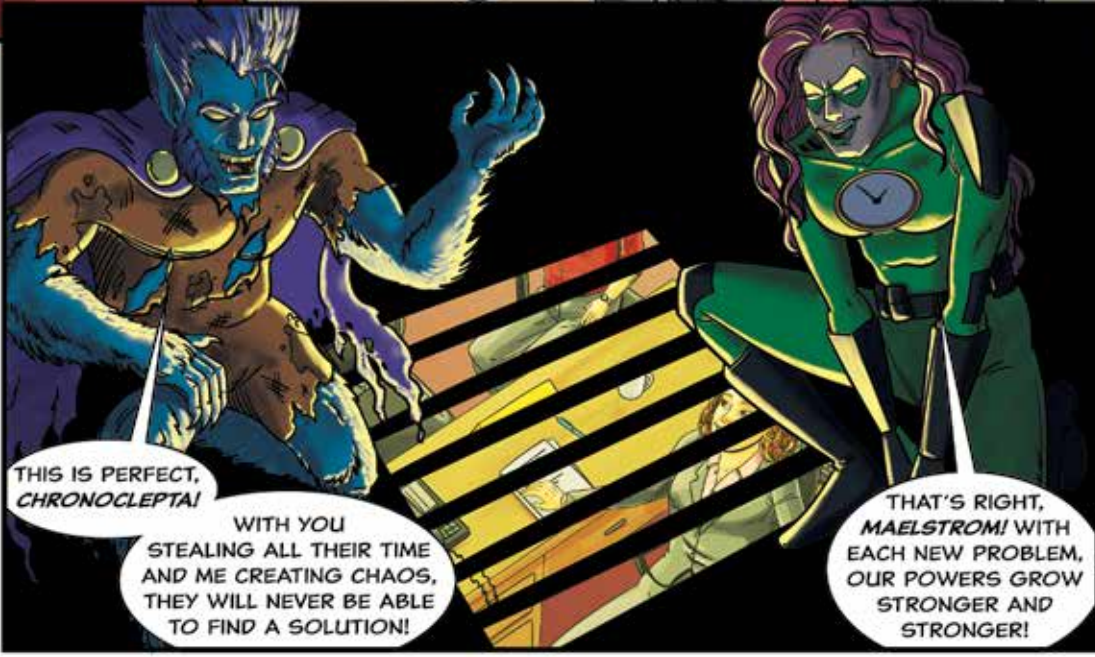
GABRIELLE, WE'VE HAD ANOTHER MAJOR SETBACK TO THE LATEST RELEASE OF OUR CDL SHIELD APPLICATION. ONE OF OUR DEVOPS TEAM MEMBERS INADVERTENTLY DELETED SEVERAL PODS WHILE WORKING LATE LAST NIGHT AND IT LOOKS LIKE OUR LAST GOOD BACKUP IS MORE THAN TWO WEEKS OLD.



SAM, THIS IS THE THIRD TIME THIS HAS HAPPENED THIS QUARTER!

I KNOW YOUR DEVOPS TEAMS ARE UNDER A LOT OF PRESSURE AND THESE ACCIDENTS AREN'T HELPING.

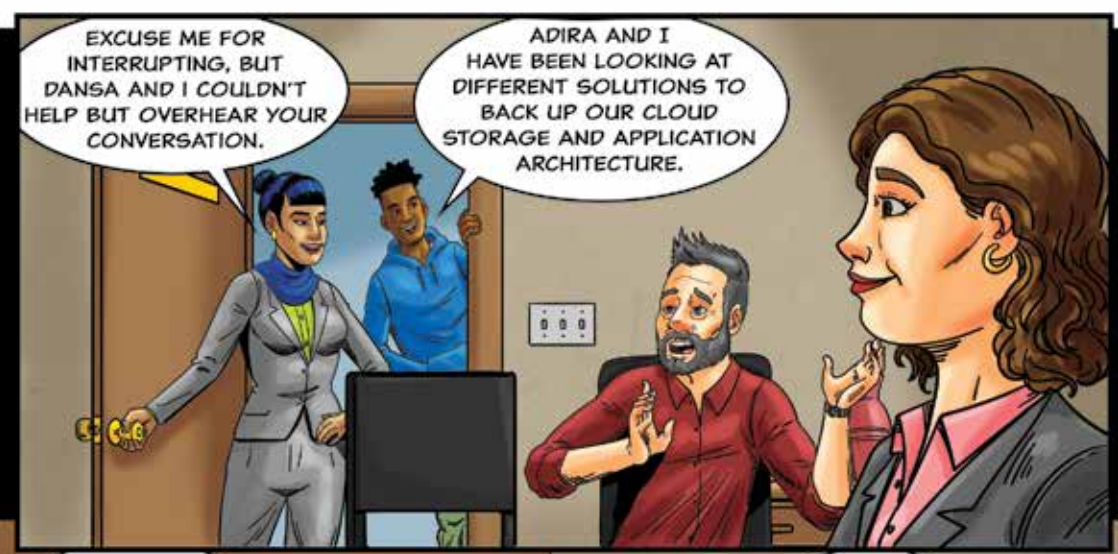
THERE MUST BE A BETTER WAY TO BACK UP OUR KUBERNETES ENVIRONMENT.



THIS IS PERFECT, CHRONOCLEPTIA!

WITH YOU STEALING ALL THEIR TIME AND ME CREATING CHAOS, THEY WILL NEVER BE ABLE TO FIND A SOLUTION!

THAT'S RIGHT, MAELSTROM! WITH EACH NEW PROBLEM, OUR POWERS GROW STRONGER AND STRONGER!



EXCUSE ME FOR INTERRUPTING, BUT DANSA AND I COULDN'T HELP BUT OVERHEAR YOUR CONVERSATION.

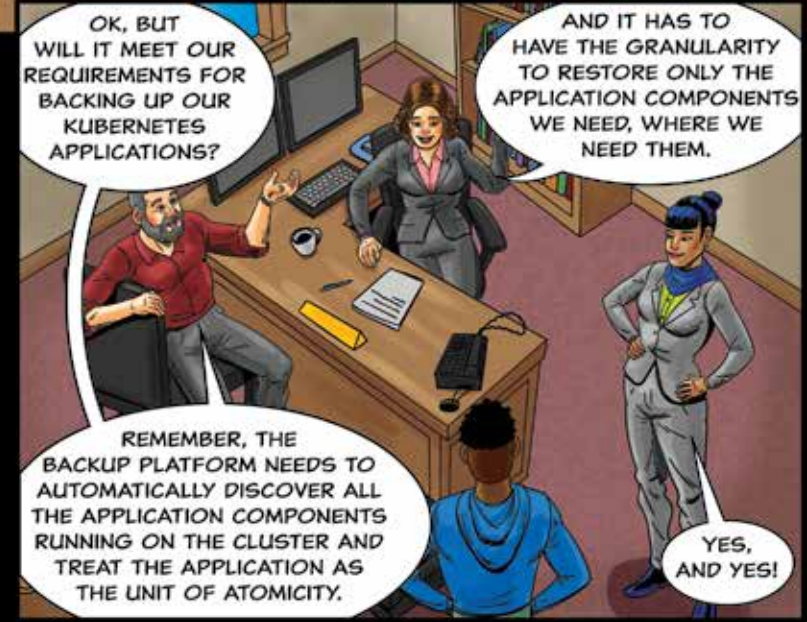
ADIRA AND I HAVE BEEN LOOKING AT DIFFERENT SOLUTIONS TO BACK UP OUR CLOUD STORAGE AND APPLICATION ARCHITECTURE.



THERE'S ONE SOLUTION IN PARTICULAR, CALLED KASTEN KIO, THAT WE'RE REALLY EXCITED ABOUT.

WE'VE BEEN ACTIVELY EVALUATING IT FOR SEVERAL WEEKS.

IT OFFERS FREE HANDS-ON LABS ON ITS WEBSITE, AND WE'VE FOUND IT TO BE A VERY INTUITIVE AND PROMISING SOLUTION.



OK, BUT WILL IT MEET OUR REQUIREMENTS FOR BACKING UP OUR KUBERNETES APPLICATIONS?

AND IT HAS TO HAVE THE GRANULARITY TO RESTORE ONLY THE APPLICATION COMPONENTS WE NEED, WHERE WE NEED THEM.

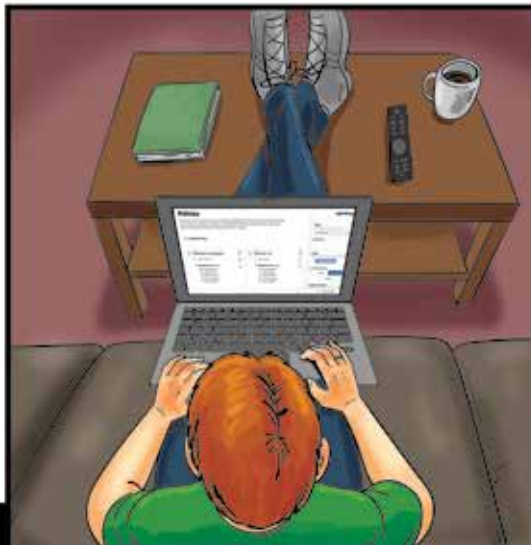
REMEMBER, THE BACKUP PLATFORM NEEDS TO AUTOMATICALLY DISCOVER ALL THE APPLICATION COMPONENTS RUNNING ON THE CLUSTER AND TREAT THE APPLICATION AS THE UNIT OF ATOMICITY.

YES, AND YES!



I DON'T LIKE THE SOUND OF THIS!

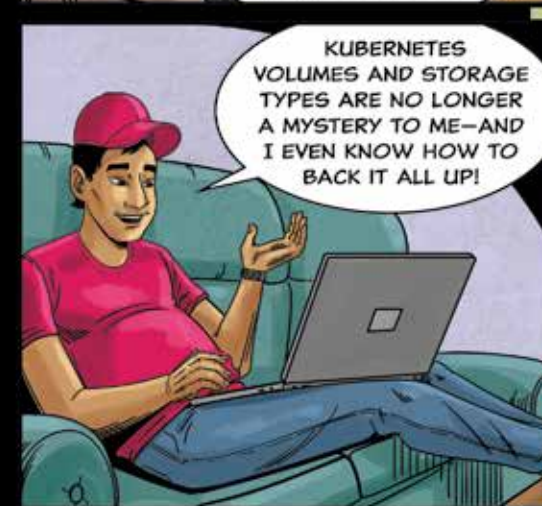




TWO WEEKS LATER ...

SO WHAT DO YOU ALL THINK OF THE NEW SOLUTION?

AND WHAT DO YOU THINK OF OUR NEW COSTUMES?



THE NEXT DAY ...

WELL, IT'S HAPPENED AGAIN.

A CORRUPTED POD WAS PROMOTED TO PRODUCTION THIS MORNING, CRASHING OUR CDL SHIELD APPLICATION.

YOU DON'T SEEM TOO CONCERNED.

THE DEVOPS TEAM USED KASTEN KIO TO RECOVER THE POD FROM A SNAPSHOT WITHIN MINUTES.

THE SNAPSHOT WAS LESS THAN AN HOUR OLD, SO WE LOST BARELY ANY TIME AND OUR CUSTOMERS DIDN'T EVEN NOTICE THE APPLICATION WAS DOWN.

THAT'S INCREDIBLE!

WE FOUND THESE TWO LURKING IN THE SHADOWS.

ADIRA AND DANSA, YOU'VE SAVED THE DAY WITH KASTEN KIO.

PLEASE, CALL HER CAPTAIN KASTEN AND CALL ME KIO, NOW.

YOU TWO REALLY ARE SUPERHEROES!

WITH THE RIGHT KNOWLEDGE, THE RIGHT TOOLS, AND A SOLUTION LIKE KASTEN KIO, IT'S EASY TO BE A HERO!

YEAH, THESE TWO HARDLY PUT UP A FIGHT.

GREAT WORK! I'LL HAVE SECURITY SHOW THEM OUT.

<SIGH>
WHAT'S THE POINT?

RIGHT THIS WAY, YOU TWO.

HEY LOOK, A WINDOW.

I'VE ALWAYS WANTED TO DO THIS!

WITH IT SUPERHEROES LIKE CAPTAIN KASTEN AND KIO, WE'RE IN GREAT HANDS!



TOP 5 TAKEAWAYS FOR STORAGE AND APPLICATIONS IN KUBERNETES:

KASTEN HELPS ENTERPRISES OVERCOME DAY 2 DATA MANAGEMENT CHALLENGES TO CONFIDENTLY RUN APPLICATIONS ON KUBERNETES. KASTEN KIO, A DATA MANAGEMENT PLATFORM PURPOSE-BUILT FOR KUBERNETES, PROVIDES ENTERPRISE OPERATIONS TEAMS AN EASY-TO-USE, SCALABLE, AND SECURE SYSTEM FOR BACKUP/RESTORE, DISASTER RECOVERY, AND APPLICATION MOBILITY WITH UNPARALLELED OPERATIONAL SIMPLICITY THAT FOLLOWS BEST PRACTICES FOR KUBERNETES BACKUP:

ARCHITECTURE: THE PLATFORM USED TO PROTECT KUBERNETES APPLICATIONS NEEDS TO AUTOMATICALLY DISCOVER ALL THE APPLICATION COMPONENTS RUNNING ON YOUR CLUSTER AND TREAT THE APPLICATION AS THE UNIT OF ATOMICITY. THE APPLICATION MUST INCLUDE THE STATE THAT SPANS ACROSS STORAGE VOLUMES, DATABASES (NOSQL/RELATIONAL), AS WELL AS CONFIGURATION DATA INCLUDED IN KUBERNETES OBJECTS SUCH AS CONFIGMAPS AND SECRETS.

RECOVERABILITY: THE DATA MANAGEMENT PLATFORM MUST ALLOW YOU TO RESTORE THE APPLICATION COMPONENTS YOU WANT AND WHERE YOU WANT THEM. YOU SHOULD ALSO HAVE THE GRANULARITY TO RESTORE ONLY AN APPLICATION SUBSET SUCH AS THE DATA VOLUME, CONFIGMAPS, OR SECRETS. THE APPROACH MUST MAKE RESTORING SIMPLE AND POWERFUL BY ALSO ALLOWING YOU TO SELECT THE APPROPRIATE POINT OF TIME COPY OF THE APPLICATION.

OPERATIONS: IT IS IMPORTANT TO ENSURE THAT A KUBERNETES-NATIVE BACKUP PLATFORM CAN BE USED AT SCALE, PROVIDES OPERATIONS TEAMS WITH THE WORKFLOW CAPABILITIES THEY REQUIRE, AND MEETS COMPLIANCE AND MONITORING REQUIREMENTS. OPERATORS SHOULD BE ABLE TO GIVE SELF-SERVICE CAPABILITIES TO APPLICATION DEVELOPERS WITHOUT REQUIRING APPLICATION CODE OR DEPLOYMENT CHANGES.

SECURITY: SECURITY IS CRITICAL WHEN DEVELOPING YOUR BACKUP STRATEGY. SNAPSHOTS WILL NEED THE SAME LEVEL OF PROTECTION AS THE SOURCE VOLUMES WHEN IT COMES TO ACCESS CONTROLS AROUND IDENTITY AND ACCESS MANAGEMENT AND ROLE-BASED ACCESS CONTROL (RBAC) MUST BE IMPLEMENTED. RBAC ALLOWS DIFFERENT PERSONAS IN AN OPERATIONS TEAM TO ADOPT A LEAST-PRIVILEGE APPROACH TO COMMON TASKS SUCH AS MONITORING. ENCRYPTION AT REST AND IN TRANSIT MUST ALWAYS BE IMPLEMENTED TO ENSURE THAT DATA IS SECURE WHENEVER IT HAS LEFT THE COMPUTE ENVIRONMENT.

APPLICATION PORTABILITY: LIVING IN A MULTI-HYBRID-CLOUD WORLD, A CLOUD-NATIVE DATA MANAGEMENT PLATFORM NEEDS TO BE FLEXIBLE IN THE SUPPORT FOR MULTIPLE DISTRIBUTIONS AND OFFER CAPABILITIES THAT ALLOW FOR THE PORTABILITY OF WORKLOADS AND APPLICATIONS ACROSS ALL THESE DIVERSE ENVIRONMENTS. PORTABILITY CAPABILITIES ARE REQUIRED ACROSS MULTIPLE USE CASES INCLUDING APPLICATION RESTORING, CLONING, AND MIGRATION.