

Message

From: Westbrook, Mark \{(UK - Manchester)\} **GRO**
on behalf of Westbrook, Mark \{(UK - Manchester)\}
Sent: 20/05/2014 12:44:04
To: Rodric Williams; **GRO**; James, Gareth \{(UK - Manchester)\} **GRO**
CC: Chris Aujard; **GRO**
Subject: RE: Follow Up to Board Update - Subject to Legal Privilege

Hi Rodric,

This is the technical information information we have obtained from EMC during the course of our review (you might just want to skip down to my analysis below this):

Centera provides content authenticity and WORM, which means that once written, customer data is immutable and cannot be modified. If the original file is modified, a new object is created and the original file is not overwritten. To our customers, "compliance" means many different things. It could mean that no data can be deleted by the application. It can mean that the storage platform needs to be locked down. Since the definition of compliance means many different things to our customers, Centera supports 4 modes or editions of compliance: Basic, Governance Edition (GE), and Compliance Edition Plus (CE+). Each mode provides different capabilities so that customers can tailor features to meet their specific compliance needs.

1. **Basic:** in its Basic edition, Centera delivers the full power of content addressed storage (CAS) and WORM capability. Self-configuring, self-managing, and self-healing, it captures and preserves original content, protecting the structure of electronic records. However, data retention is NOT enforced and advanced features such as shredding and advanced retention management are NOT available. Data can be deleted at any time, provided the application has the required access rights.
2. **Governance Edition (GE):** Governance Edition is specifically designed for organizations not governed by the US Securities and Exchange Commission (SEC) to responsibly manage electronic records. Deploy Governance Edition for policy-based retention and disposition of electronic records.
3. **Compliance Edition Plus (CE+):** Compliance Edition Plus is designed to meet the most stringent requirements for electronic storage media as established by regulations from the US Securities and Exchange Commission (SEC) and other national and international regulatory groups. It draws on the core strengths of the Centera platform while adding extensive compliance capabilities. Compliance Edition Plus brings Write Once, Read Many (WORM) protection to critical digital information.
4. **Advanced Retention Management (ARM):** Advanced Retention Management is an add-on license to GE or CE+ compliance modes. Three additional features are enabled via ARM: event-based retention (EBR), litigation hold (LH), and min/max governor per pool. We will describe these features on the next slide.

Here is a chart that identifies differences between Centera compliance models

Features	Basic	CE	CE+
Retention Mgmt	-	✓	✓
Enforce Retention	x	✓	✓
Delete	✓	✓	✓
Privilege Delete	-	✓	x
Purge	✓	x	x
Set Default Retention ⁽¹⁾	-	✓	x
Shredding	-	✓	✓
Remote Mgmt ⁽²⁾	✓	✓	x
Advanced Retention	-	\$	\$

⁽¹⁾ On CE+ Default Retention is always infinite

⁽²⁾ On CE+ Remote Management can only be enabled over a dedicated management network and never on the application / access network

So the key difference for our purposes is that accounts with the correct access rights would be able to delete (but not modify existing) Audit Store records on the Centera box.

This risk should be largely mitigated by the unique sequence numbers (JSN's) recorded against each basket transferred to the Audit Store, and the digital seals applied to protect them.

There remains a small risk (that can only really be discounted by detailed testing) that someone with the requisite access rights to the 'digital keys' used in the sealing process and admin access on the Audit Store could theoretically:

- Delete an audit store record (after extracting it to review the specific JSNs it contained);
- Recreate the transactional data that was originally within that Audit Store file to suit whatever purpose they might have (using the JSNs in the original file they have subsequently deleted).
- Seal it using the correct key to generate a valid seal value.
- Reinsert it into the database (you would need to alter the database of seal values as well to make this change undetectable).

There is an additional complexity that the transactions themselves (within a sealed Audit Store file) are also digitally sealed via digital signature.

The question therefore becomes does anyone have the requisite access rights to the Centera boxes and rights to key management to be able to exploit this? This question is currently with Bill Membery at Fujitsu for clarification (i.e. the key control is having the requisite segregation of duties between key management and the Centera boxes).

Let me know if that doesn't give you what you need.

Thanks,

Mark

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From: Rodric Williams **GRO**
Sent: 20 May 2014 12:25
To: Westbrook, Mark (UK - Manchester); James, Gareth (UK - Manchester)
Cc: Chris Aujard
Subject: Follow Up to Board Update - Subject to Legal Privilege

Gareth, Mark

In the course of preparing your Board Update, you identified an example where “a [Horizon] control was not implemented as understood”, namely that the audit store Centera box is configured only to “Basic” settings, not the more secure “CE+” setting as we seemingly understood.

I understand you have since done some further work to better understand the risk that this may present to the integrity of the data held in the audit store, including identifying the existence of other, complementary controls.

Can you please send me a summary of this specific technical issue and the controls that are in place? At this time, I do not need a narrative on how the issue came to be identified or investigated, just a statement of the current position.

Kind regards, Rod

Rodric Williams | Litigation Lawyer



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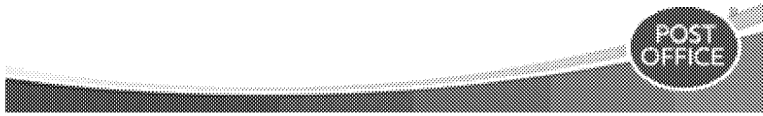
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