LESS DISRUPTION. MORE INSIGHTS.

HAMR is a big data analytics engine that builds upon expertise in data flow technologies. HAMR software is less of a disruption and more of a source of faster insights for enterprises with big data problems. HAMR enables enterprises to do more with less. HAMR can be used by Data Scientists as well as IT staff.

Programmers can train data and shut down fraud more rapidly with HAMR. In the case of a bank that suffers an average loss of $12.9 million from a single type of fraud, HAMR can reduce the exploit from nine days to four. That reduces each loss from $9.7 million to $1.5 million. Over the course of 27 events in one year, faster time-to-insight leads to nearly $200 million in averted fraud and almost a billion over five.

Based on this use case, HAMR's TCO is also $10.9 million less than Hadoop over five years.

USE CASE // **FRAUD DETECTION**

PROBLEM A large Latin American financial institution processes between two and three million transactions per day. Fraud impacts checks, credit cards, ACH debits, wire transfers and ACH credits. Assume that the bank experiences a loss of 2,294,419,970 pesos, equaling $350 million US dollars per year in fraud by organized criminal enterprises. Typically, these hackers test a new method of fraud over the first three days, then deploy a massive attack over the next two weeks. Each orchestrated series of attacks averages $12.9 million in losses.

The bank deployed Hadoop to identify complex fraud through Big Data analytics using a team including systems administrators and data scientists. The team detects anomolous behaviors in three days and takes six days to introduce a new model that enables systems to shut down similar behavior by hackers. Annual fraud losses would be $467 million, but Hadoop averts $117 million. Hadoop does produce a return on investment (ROI), with a five year total cost of ownership (TCO) of $30 million.

The financial institution is not satisfied with Hadoop's results. The bank is most troubled by the lost time in detecting fraud. A system administrator spends 805 hours each year moving data from the public cloud to the Hadoop Distributed File System (HDFS). On a daily basis, it takes 3 hours, 13 minutes to move 1.2 terabytes (TB) of data from systems of record to HDFS. This is just one of many delays that need to be reduced.

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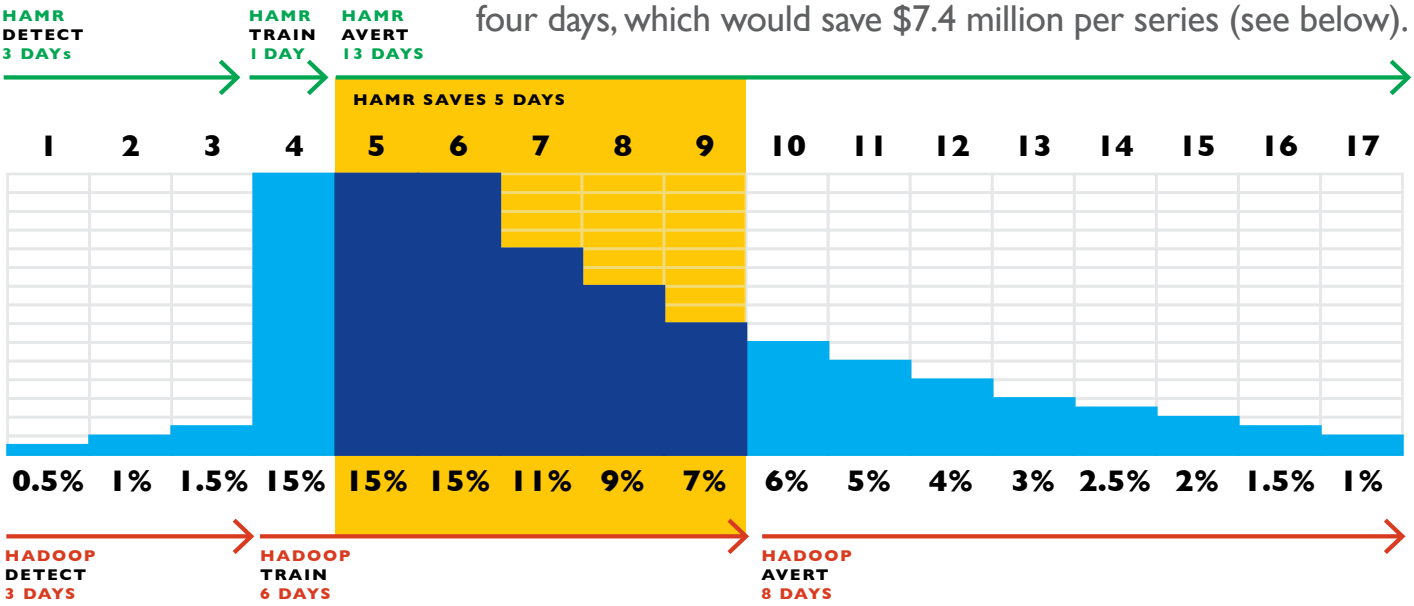
HAMR

LESS DISRUPTION. MORE INSIGHTS.

Reducing $200 million in fraud in one year adds up to $1 billion in five years.

SOLUTION HAMR enables more rapid insights to detect fraud. A series of fraud attacks over 17 days may cost the bank $12.9 million in losses. HAMR can reduce the exposure period to only four days, which would save $7.4 million per series (see below).



Data Scientists need three days to collect data and **detect** a fraud pattern using HAMR or Hadoop. They build a pattern recognition model with Data Mining or Machine Learning technology.

HAMR can **train** data in one day. Fraud Detection typically needs one to three years of historical reference data. This huge data volume is extremely time-consuming for Hadoop to train, taking six days. This is how HAMR saves five days.

HAMR can **avert** fraud over a period of 13 days, continually training data. Hadoop can only avert fraud for eight days.

The savings of five days represents 57% of the fraudulent activity.

Because of superior performance, HAMR can continuously update the model with users' feedback, leading to lower false-positive rates. Faster response to the new pattern of fraud improves the bank's balance sheet.

HAMR offers less disruption and lower TCO. HAMR can deliver up to 15x speed-up compared to Hadoop's enterprise edition. HAMR requires less resources for the same computing capacity. For the bank's system processing an average of 1.2 TB of data each business day, HAMR can offer more than $10 million.

		HAMR		Hadoop
Volume of Data (in TB)		300		300
Nodes		18		60
System Cost	$	402,120	$	1,340,400
Initial Acquisition Cost	$	81,000	$	270,000
Upgrades at 26% CAGR	$	123,120	$	410,400
Maintenance/Support	$	90,000	$	300,000
Power/Space/Cooling	$	108,000	$	360,000
Admin	$	1,350,000	$	4,050,000
ETL	$	0	$	569,000
Application Development	$	18,193,750	$	24,850,000
TOTAL	$	19,945,870	$	30,809,400

Five year calculations are based on 1.2 TB of data processed per day, multiplied by 250 days per year (300 TB per year). HAMR can save 70% of your system cost and help you reduce up to about 30% for the total cost of 5-year ownership.