SQL Server Row Data Linking to Off Row Data

The question came up as how to find a link from blog storage that is corrupt back to the table and row that contains that data.

The is no link from the blob storage back to the table and row, but this is a link from the data page containing the table and row off to the blob data.

First let's start with row data and off row data. When SQL Server stores a row that contains variable size data like a VARCHAR, if all the lengths of all the values in the row are less than about 8k, SQL Server stores that entire row in a single data page. If a row contains a set of data larger than 8K, then some if it can be moved off row and stored in blob storage.

Picture the following table:

If you were to put small values into the varchar columns then the entire row would fit in a single data page (8k). But if you put 4k of data into one varchar(max) and 8k of data into the next varchar(max) then it will not fit in a page. One of the varchar values will be moved off page into a page that contains blob storage. No rocket science here yet, but when you want to find the relationship between these page it gets difficult.

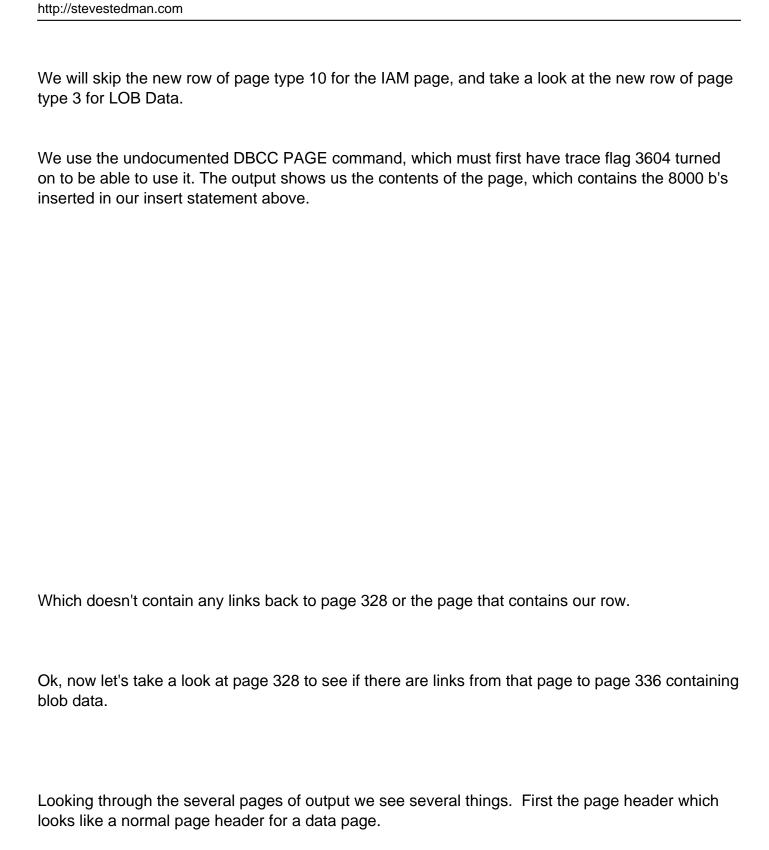
Using the undocumented DBCC IND command you can see that the table (clustered index) is comprised of 2 data pages, the first one of type 10 which is the IAM page or Index Allocation Map, and the secon page of page type 1 which is a standard data row.

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Next we add another row.
And we can see that both rows are still only using the same 2 pages.
So now what happens if we insert a row that is larger than the page?
We get two more pages added as shown by DBCC IND.

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Steve Stedman Freelance SQL Server Consultant http://stevestedman.com The scrolling down we see the test row data that we inserted for the first row, and for the second row. Followed by the third row that was had one column too big to fit into the page.

Steve Stedman Freelance SQL Server Consultant http://stevestedman.com the lob data.



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