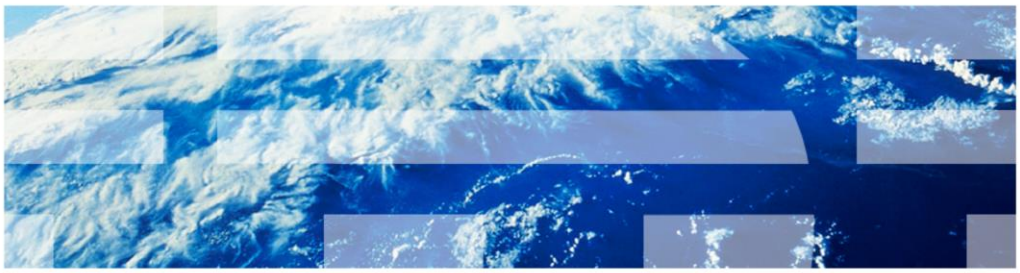
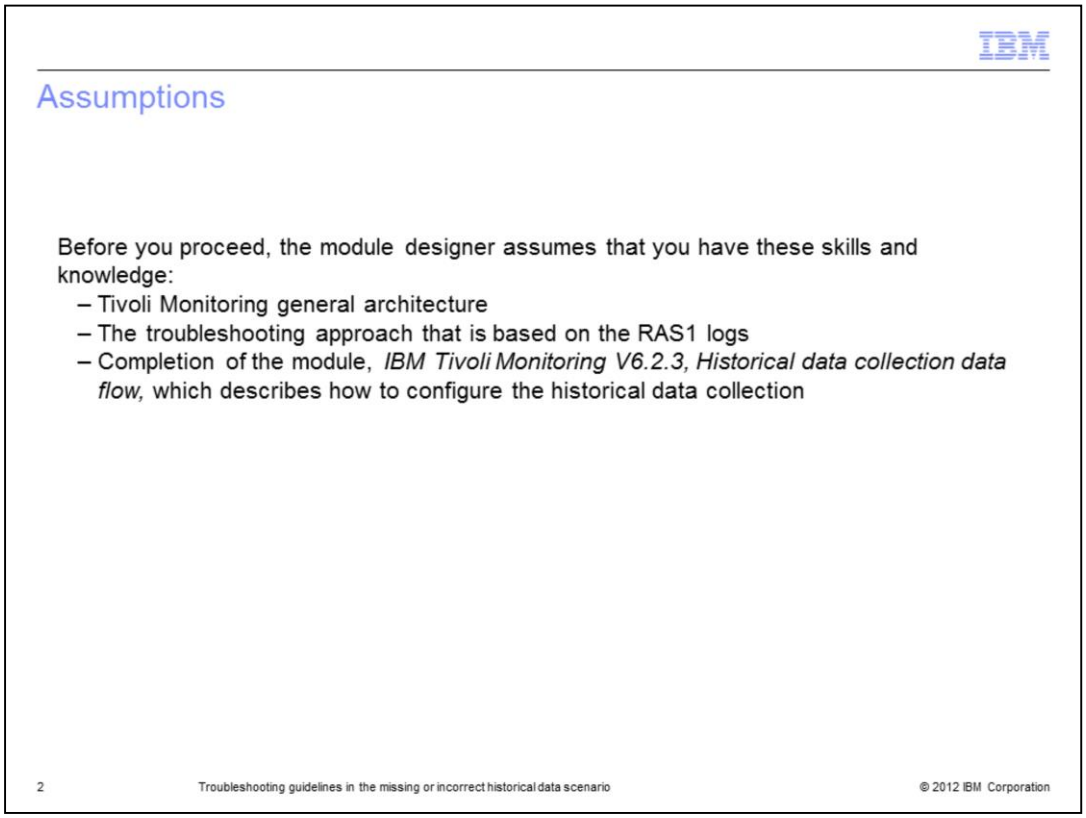
IBM Tivoli Monitoring V6.2.3

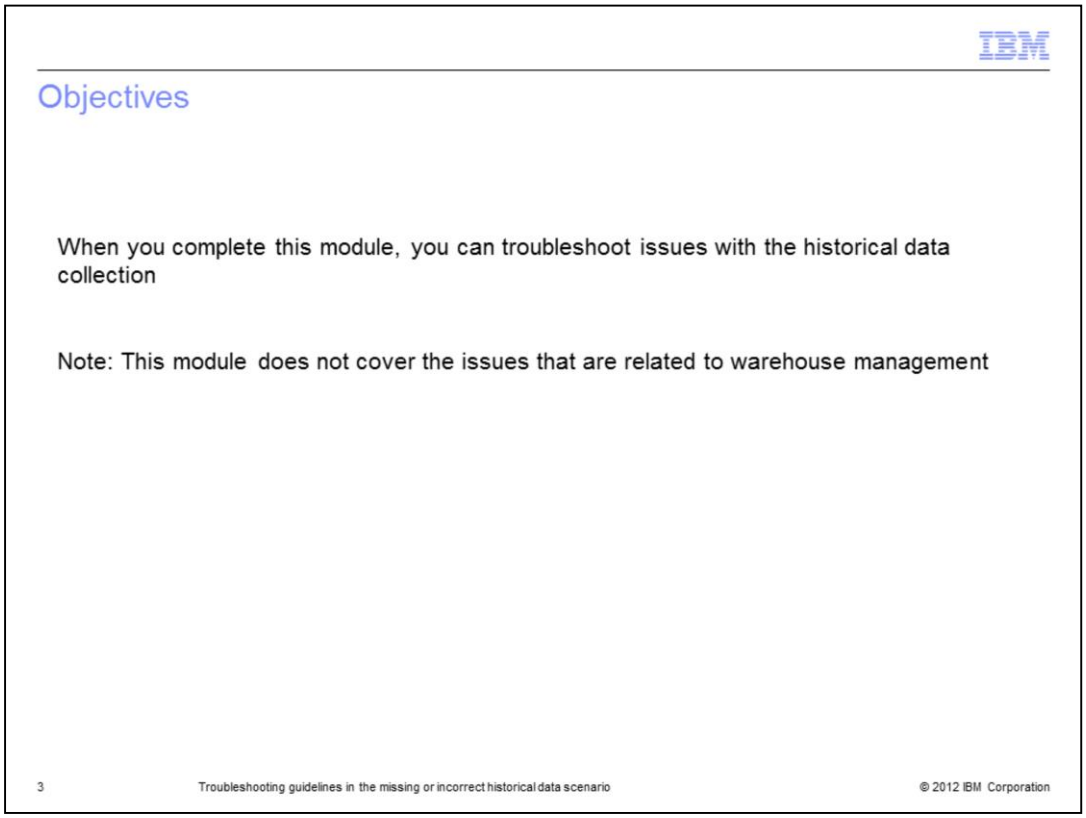
Troubleshooting guidelines in the missing or incorrect historical data scenario



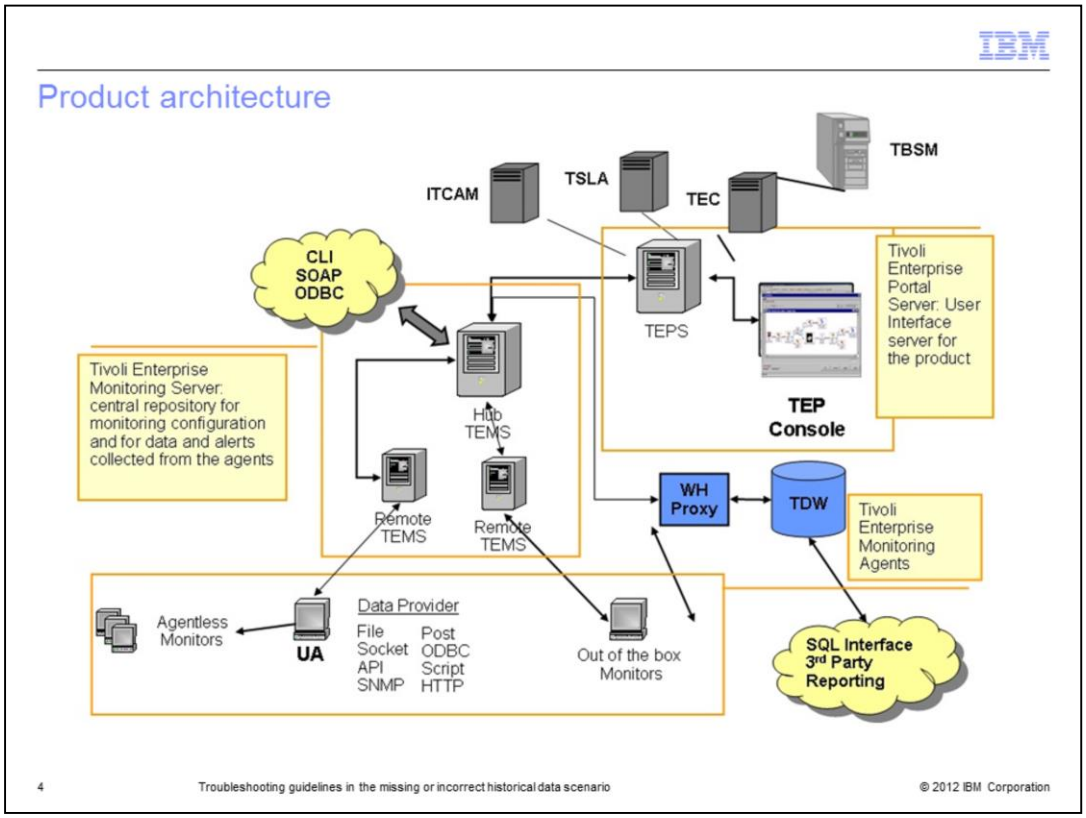
This presentation has steps for troubleshooting the missing or incorrect historical data scenario. In this scenario, the Tivoli® Monitoring product cannot correctly manage short-term historical data with unexpected outcomes on the Tivoli Enterprise Portal interface.



To complete this module, you need to know the general architecture of the IBM Tivoli Monitoring products and be familiar with the troubleshooting approach based on the RAS1 tracing and logging.



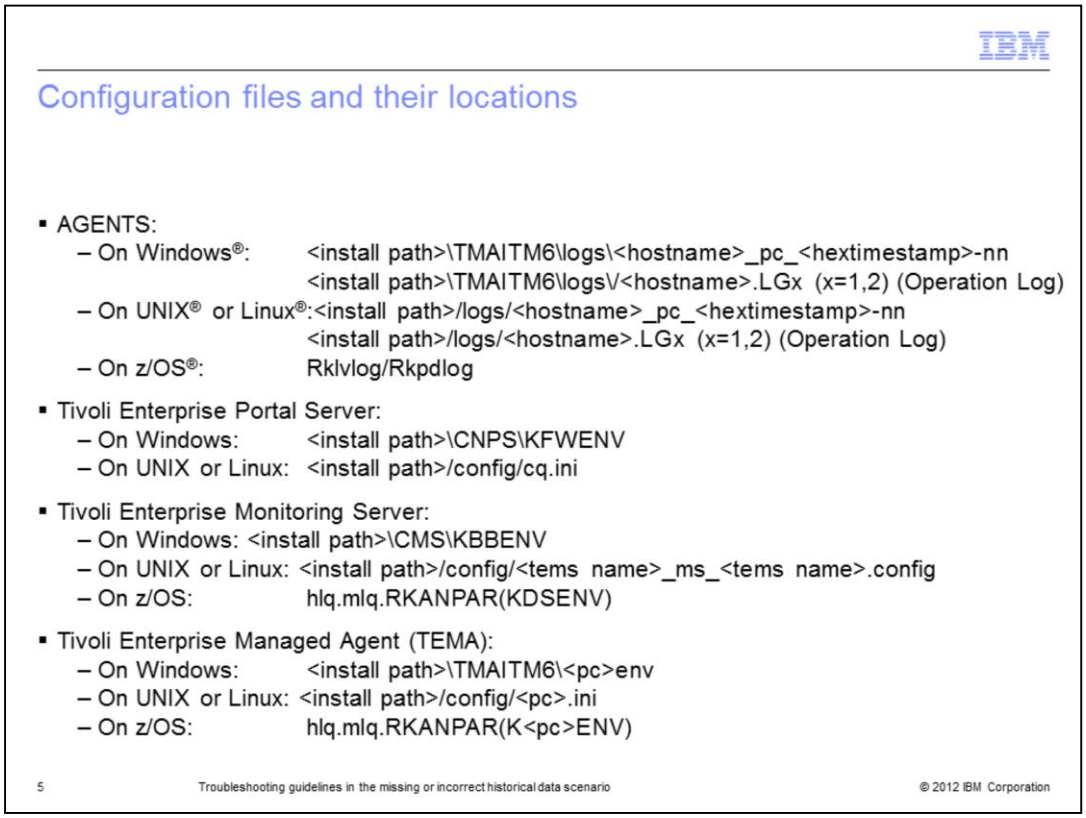
When you complete this module, you can troubleshoot the scenario where the monitoring product cannot collect and store historical data and has unexpected outcomes in the Tivoli Enterprise Portal interface.



You might know the Tivoli Monitoring architecture and its components. The core of the architecture is the Tivoli Enterprise Monitoring Server component, which can be HUB, or optionally (for scalability reasons in large environments), remote. The Tivoli Enterprise Management Server manages the communication with the agents and owns the tables where the performance data (coming from the agents) are stored. It is also responsible for the situation and policy management.

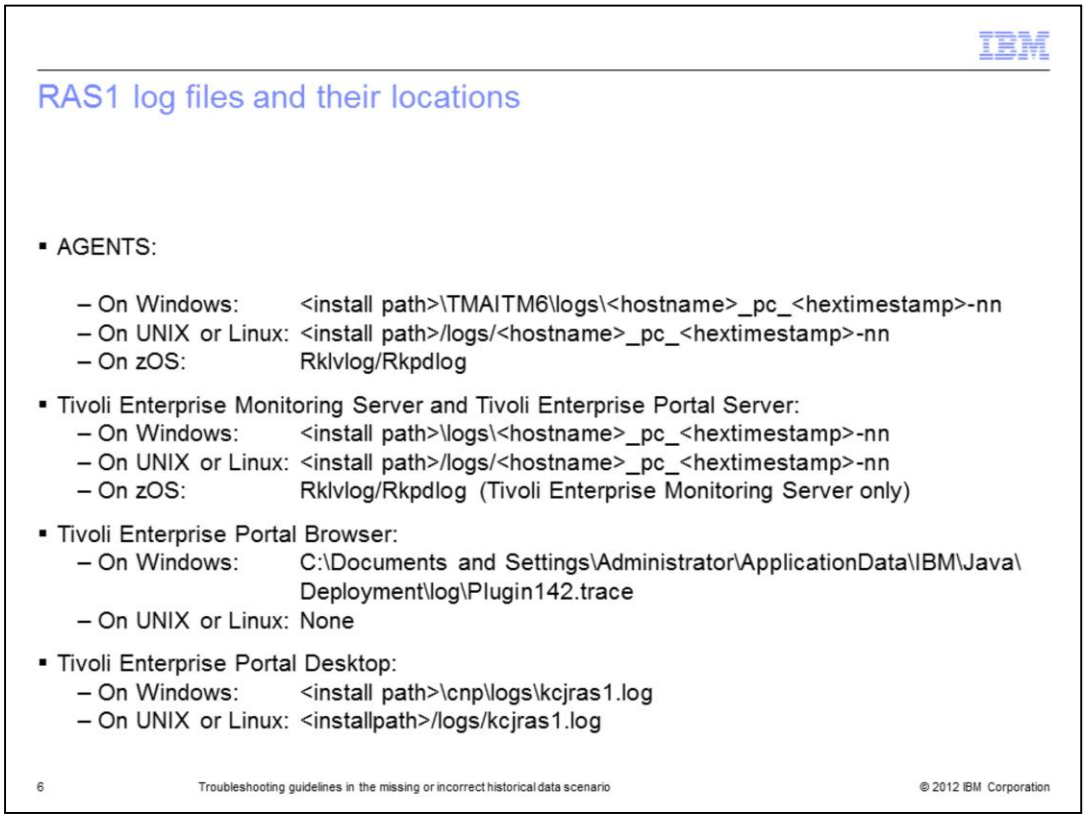
Tivoli Enterprise Portal Server is the presentation component of the collected data to the user. Its configuration data (that is, workspaces definitions, user permissions) are stored in a database that can be based on DB2®, Oracle, or SQLSERVER. The agents that support most of the known platforms are for the data collection.

There is also a component that is devoted to the historical data collection. It includes a warehouse proxy agent and a summarization and pruning agent.

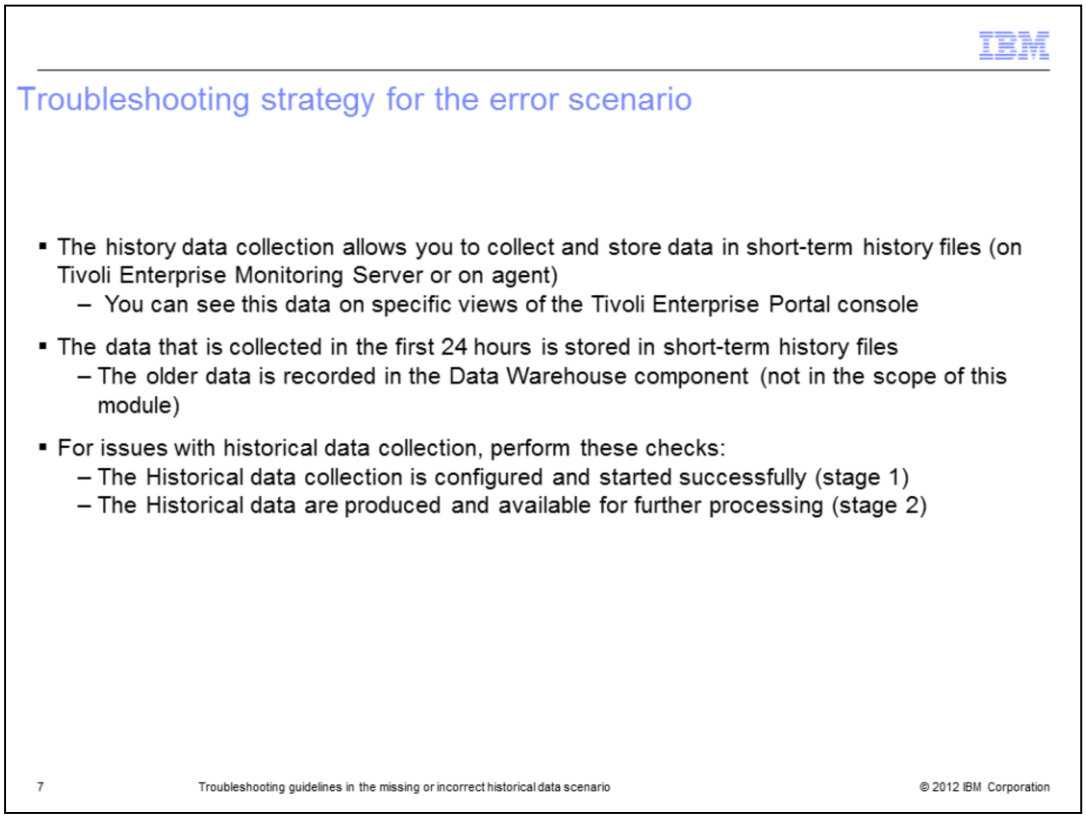


This slide shows the physical location of the Tivoli Monitoring configuration files on supported OS platforms.

Details are provided for the three main components: Tivoli Enterprise Portal Server, Tivoli Enterprise Monitoring Server, and the agent.

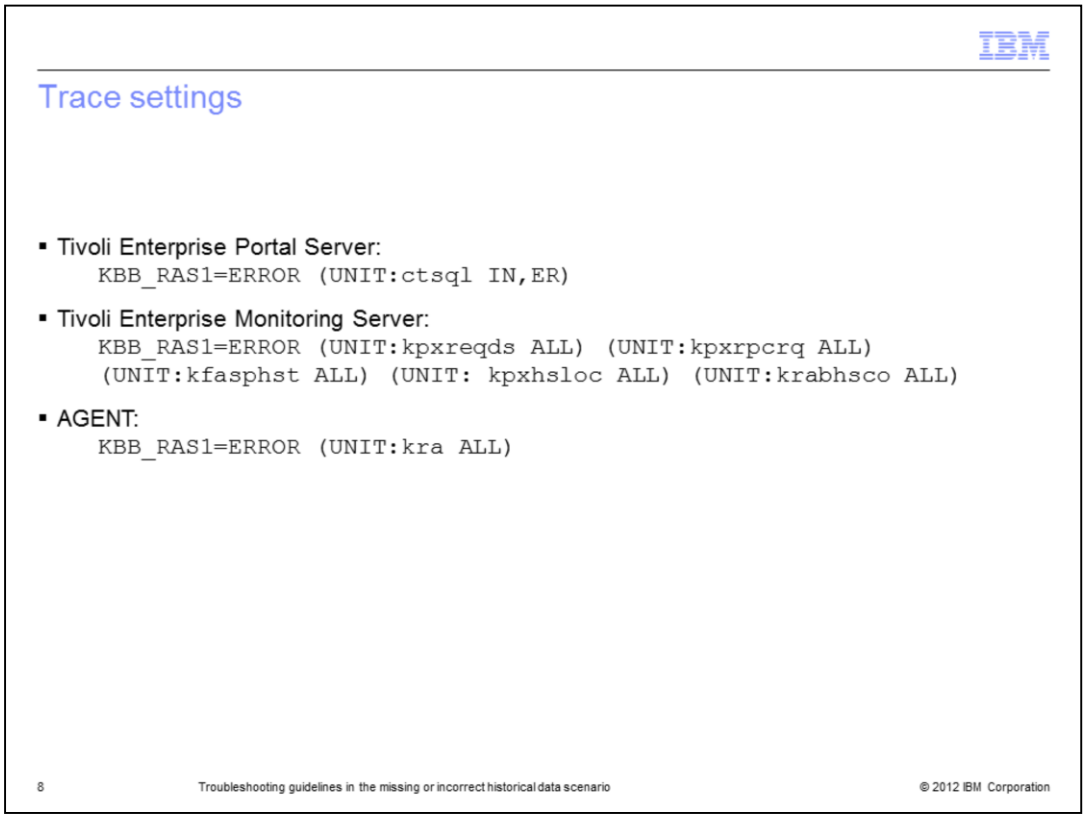


This slide shows the physical location of the RAS1 log files on supported OS platforms. Details are provided for the three main components: Tivoli Enterprise Portal Server, Tivoli Enterprise Monitoring Server, and the agent.

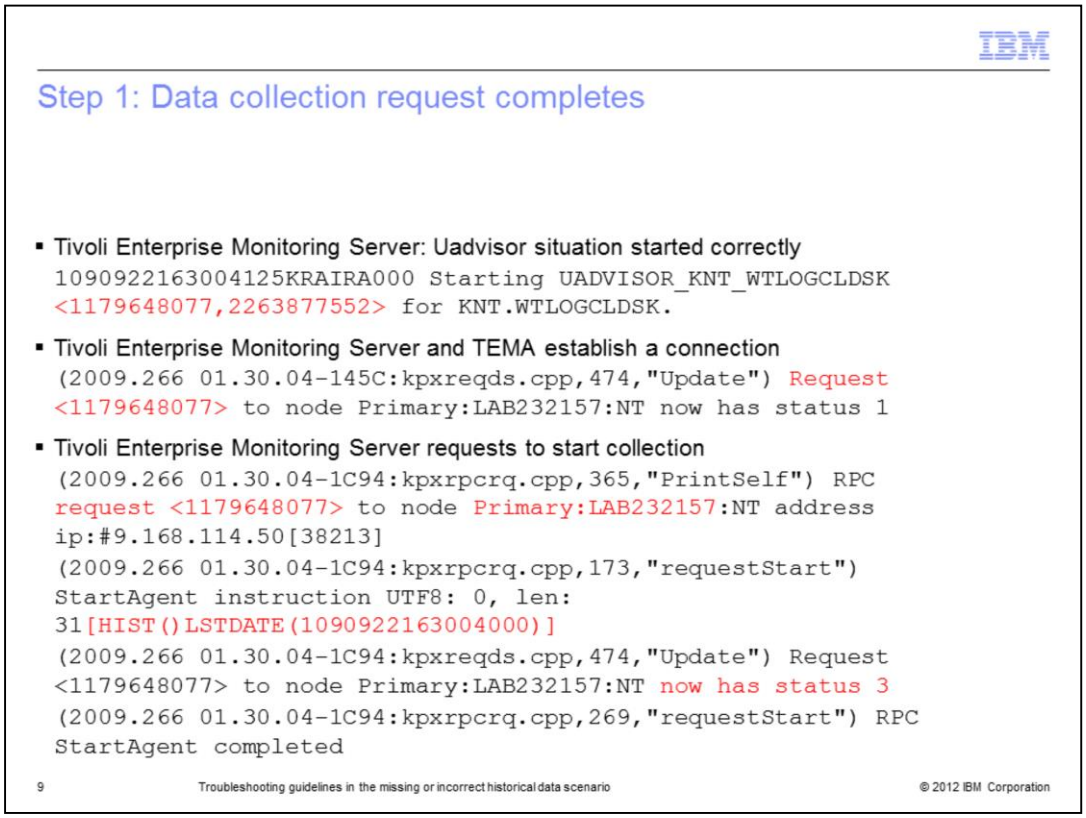


The history data collection feature allows you to collect and store data in short-term history files on the Tivoli Enterprise Monitoring Server or on the agent. Then, you can retrieve such data and view it in a specific view of the Tivoli Enterprise Portal interface. The data that is collected in the first 24 hours is stored in short-term history files; data older than 24 hours are recorded in the Data Warehouse component. This second component is not in the scope of this module.

When you encounter issues with the historical data collection, you must check to see whether the historical data collection is properly configured and started, which is stage 1. Then, you ensure that the historical data is collected and stored so that you can retrieve and use it, which is stage 2.

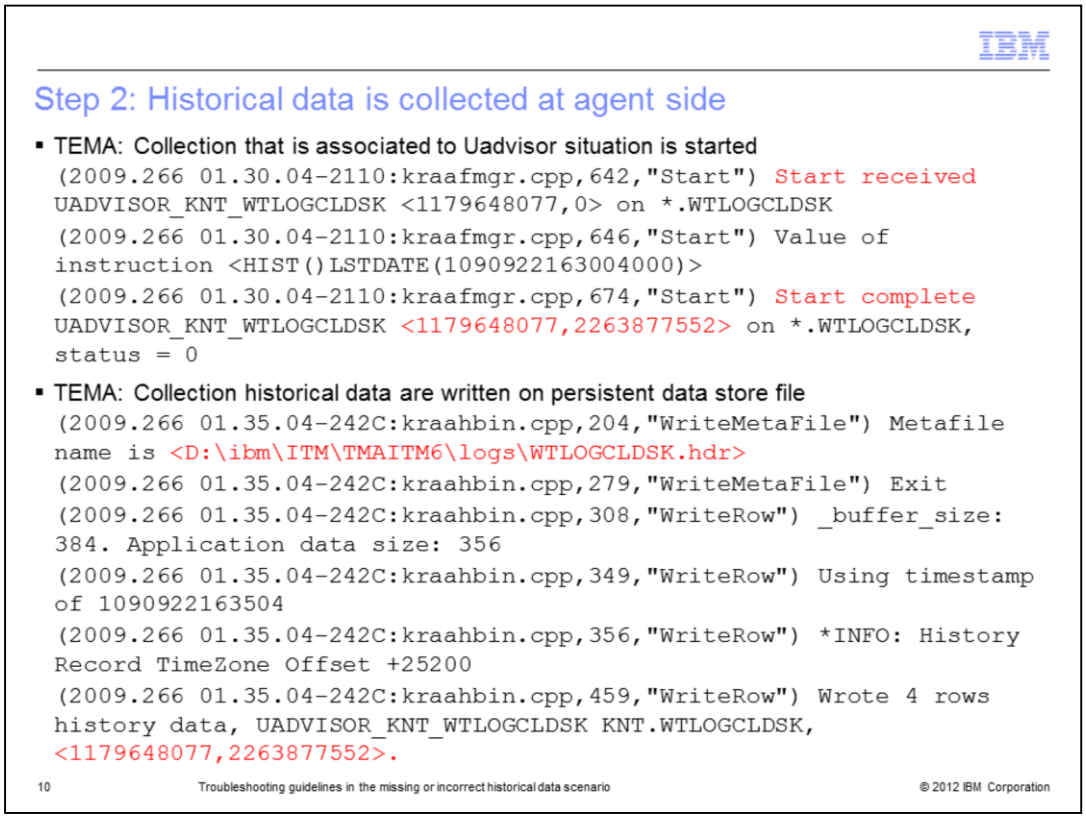


The error scenario involves all of the three main components: the Tivoli Enterprise Portal Server, which places the data request; the Tivoli Enterprise Management Server, which manages and drives the request; and the agent, which performs the data collection. Each of these components must be instrumented with specific traces, as shown in this slide. The traces that are activated on Tivoli Enterprise Management Server allow you to track the interactions between the Tivoli Enterprise Management Server and the persistent data files.

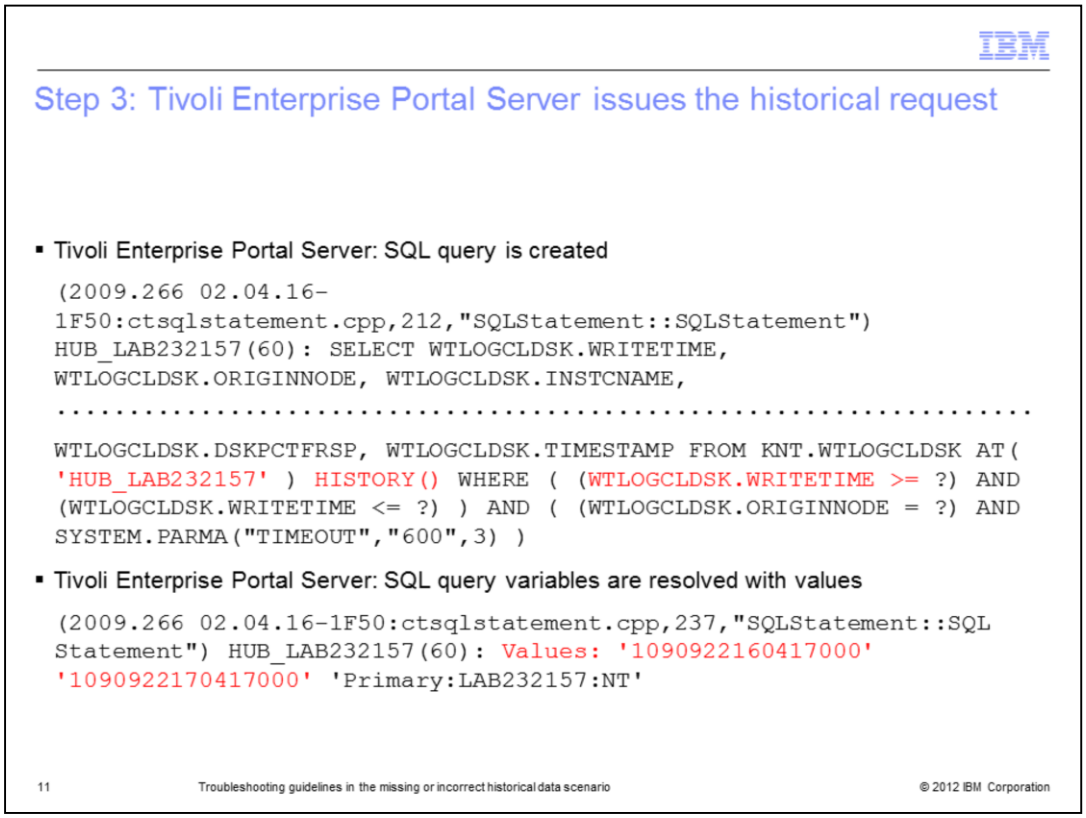


During step 1, the data collection request is started, and after processing, comes to a positive end. The operational logs (.lg0/lg1) are useful to verify that the configured historical collections started. Then, the historical collection is started for an attribute group, and a Uadvisor situation on the attribute group is started.

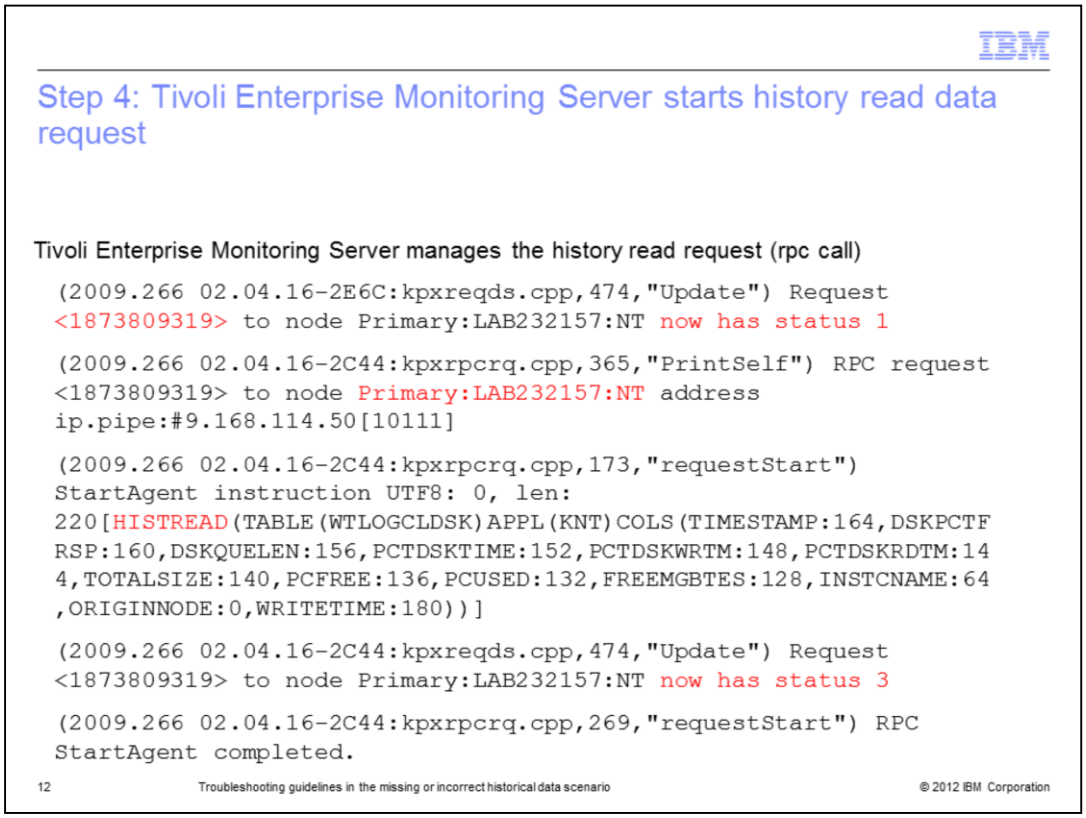
This log is useful because you can see which historical collections are active. There is a data collection behind each historical data collection start, like the online collection. Tivoli Enterprise Management Server establishes a connection to the agent. After the connection to the agent completes, the collection on the connected agent can begin.



During this step, the collection that is associated to the Uadvisor situation is started on the agent side. After the collection on the agent is completed and the data is available, the next step is to write it on a physical file to keep it permanently. This action is done by following the attribute group metafile that drives the historical data store task. As a result, some rows (in this case, four rows) are written on the short history file. The **Wrote n Rows** string is the key point to look at to ensure that your historical collection is completed and produced some data. In this specific case, four rows of data are stored on file **WTLOGCLDSK**.

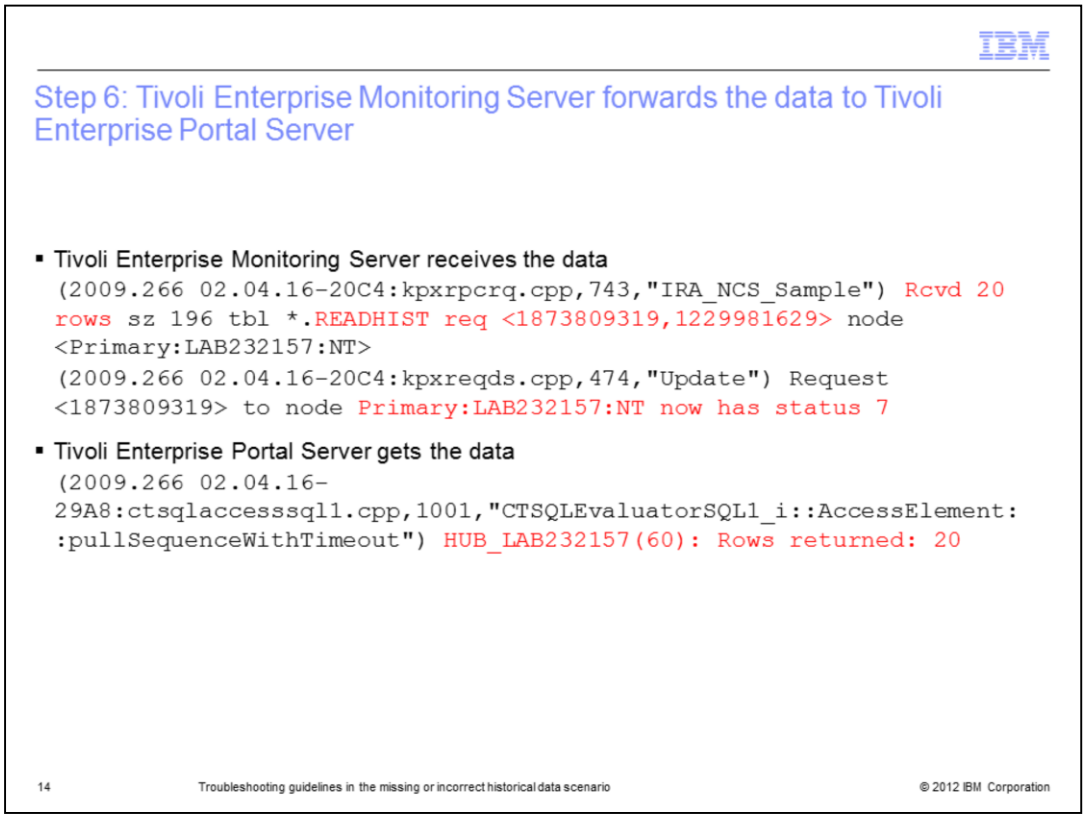


In this step, you issue a request for retrieving a set of historical data. The mechanism is similar for the real-time data. First, an SQL query gets created at the Tivoli Enterprise Portal Server level. The HISTORY () clause is the relevant part, which helps distinguish a query for historical data from a query for online data, where the HISTORY() clause is not present. Then, this SQL query is resolved with values to determine the interval range of interest for the data collection.

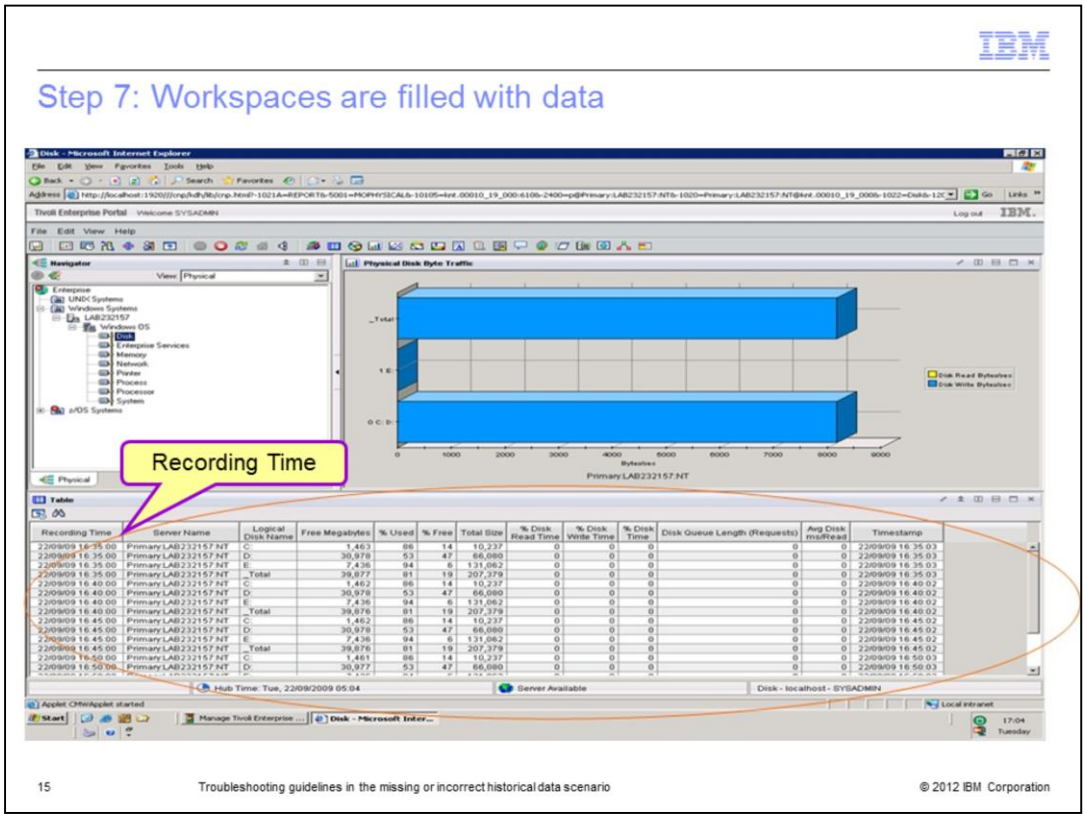


In this part of the flow, the historical data request gets issued as an RPC call from Tivoli Enterprise Management Server to the target agent. As in a normal request of real-time data, you can track the current state by looking at the status values. The HISTREAD clause means that the table of data of interest is read from a file.

The request for data-read of the historical data gets to the agent side. The agent locates the header file (with extension hdr) containing the data definitions of the files that it must read. Then, it opens the source file where the historical data is physically located. Finally, it returns it as several rows to Tivoli Enterprise Monitoring Server.



During this step, Tivoli Enterprise Monitoring Server receives the 20 rows that the agent sent and marks the request with status=7, which means that the data arrived correctly. Then, Tivoli Enterprise Management Server passes back the 20 rows to Tivoli Enterprise Portal Server, which closes the initial SQL query for historical data.



On this slide, you see the four rows of data returned. The Tivoli Enterprise Portal view shows the 20 rows of data returned, circled on the slide. You can easily determine that there is historical data available for a view by looking at the hourglass symbol on the upper left corner of the window. Another good indication is the **Recording Time** column that is specific to the historical data tables.

Now that you completed this module, you can troubleshoot the scenario where the monitoring product cannot collect and store historical data.

Trademarks, disclaimer, and copyright information