

## kpmg Consulting

<b>Exception Report</b>	<b>19</b>	<b>Version</b>	<b>1</b>	<b>Owner</b>	<b>KPMG Consulting</b>
<b>Issued</b>	<b>November 29, 2001</b>	<b>Test</b>	<b>PMR1</b>	<b>Role</b>	<b>Test Manager</b>
<b>Applicability</b>	<b>Michigan, Illinois, Indiana, Ohio, Wisconsin</b>				

Ameritech's data retention policies regarding source data do not enable thorough and complete audits to be conducted or facilitate the resolution of potential disputes which may arise between the CLECs, Ameritech and the regulatory agencies regarding the correct reporting of performance measurement results.

### Issue

As part of Metrics Data Collection and Storage (PMR1) testing, KPMG Consulting has attempted to identify the source systems that capture data used in the calculation and subsequent reporting of performance measurements. Ameritech has indicated that "raw" data (i.e. order level data) is retained for three years. However, KPMG Consulting has learned that this data, although detailed, has been processed and therefore cannot be considered to be in its rawest form. KPMG Consulting's expectation is that source data be retained in its raw unprocessed form and not be summarized, processed or filtered. Any processing which occurs may compromise the integrity of the data, possibly introducing errors in the reporting of the performance measurement results.

On July 24, 2001 KPMG Consulting requested from Ameritech data retention policies for what had been identified as source systems in order to determine the retention of source system data. Over the course of the next several months, KPMG Consulting worked with Ameritech to obtain the required information. To date, KPMG Consulting has been unable to discern from Ameritech its data retention policies and practices on an individual source system basis. Ameritech provided a document<sup>1</sup> which indicates that systems which first capture the data used in Performance Measurement Reporting "...are transactional systems, not reporting systems, they typically do not retain data for more than one or two months."

Long term retention of source system data is necessary in order to conduct thorough and complete audits and resolve potential disputes that may arise between CLECs, Ameritech, and regulatory agencies regarding the correct reporting of performance measurement results. Ameritech may also be unable to regenerate corrected historical performance measurement reports if inaccuracies in these reports are found.

### Assessment

Ameritech's failure to maintain source data in its original form makes complete and thorough annual audits of retrospective data impossible. Attempts to trace errors in the reported results are hindered by the lack of retention of source data, and Ameritech may not be able to regenerate performance measurement reports as required.

<sup>1</sup> Document entitled "Data Retention Architecture" provided by Jim Ehr on November 15, 2001.

*This exception report is for discussion purposes only and is subject to change without notice.*



**Date:** December 11, 2001  
**To:** KPMG Consulting  
**From:** OSS Test Project Management Team  
**Subject:** Ameritech Response to Exception #19

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### **Original KPMG Exception**

Ameritech's data retention policies regarding source data do not enable thorough and complete audits to be conducted or facilitate the resolution of potential disputes which may arise between the CLECs, Ameritech and the regulatory agencies regarding the correct reporting of performance measurement results.

#### **Issue**

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#### **Assessment**

Ameritech's failure to maintain source data in its original form makes complete and thorough annual audits of retrospective data impossible. Attempts to trace errors in the reported results are hindered by the lack of retention of source data, and Ameritech may not be able to regenerate performance measurement reports as required.

## Ameritech Response to KPMG Exceptions (*continued*)

### Ameritech Response to Exception 19

Ameritech understands the need for retention of the data required to generate the performance measurements. Ameritech has, and continues to, collect the appropriate data required to accurately generate all performance measurements. Data retention is also driven by the need to (a) support audits, and (b) enable reconciliation of CLEC-specific and CLEC-aggregate performance results, along with any Ameritech retail or affiliate comparison data. Ameritech agrees with KPMG's assessment that Ameritech must "maintain source data in its original form".

Data to be retained must be broad enough in scope such that all business rules defined in the performance measurements can be applied. This includes exclusion criteria, inclusion criteria, data required to disaggregate records into the reported levels, and data required to calculate the actual results specific to each group of performance measurements that use the same universe of data.

Ameritech believes that an appropriate systems architecture for retaining performance measurement data in its original form can be described as follows:

1. Retain data required for performance measurements in the source OSS, where current data retention policies support the requirements for performance measurements. Where that is not feasible, extract the universe of data records (orders, FOCs, trouble reports, etc.) that could be considered for each group of performance measurements from an OSS system that retains the data in its original form. This may be the OSS that originally created the data, or a "downstream" OSS to which the data has been passed unchanged.
2. For data extracted from an OSS, that universe of data will be retained in the original extract file format in a file repository. These source files are typically ASCII flat files, which are readily readable through a variety of 3<sup>rd</sup>-party software products.
3. Production reporting processes will read and process records from these original extract files, on a scheduled basis, to populate reporting databases. In many cases this process will derive new data fields based on data from the extract files. Broad exclusion criteria, applicable to a group or class of measurements (Resale Maintenance measures, for example) will also be applied, in some cases, at this step of the process.
4. The remainder of exclusion/inclusion logic, along with organization of the data for disaggregated reporting, would be completed in the reporting applications, along with the actual calculation of the results.

In regard to retention of the performance measurement data in its original form, Ameritech has confirmed that the type of architecture described above has been implemented for approximately two-thirds (67%) of the performance measurements currently being reported. Ameritech continues its investigation to verify that the data for the additional approximately one-third (33%) of the measurements is being retained in its original form. Ameritech is working aggressively to complete this investigation, and will share the results as they become available.

Ameritech continues to work with KPMG to complete the data request of July 24<sup>th</sup>, and expects this request to be completed shortly. It is expected that additional joint work between Ameritech and KPMG will be required to complete the assessment of all Ameritech data retention policies as they apply to performance measurements, as the July 24<sup>th</sup> request was limited to specific systems and performance measurements. With the KPMG staff working on-site at Hoffman Estates, Ameritech expects this area of work to progress quickly.



**Date:** July 25, 2002  
**To:** KPMG Consulting  
**From:** OSS Test Project Management Team  
**Subject:** Ameritech Response to Exception #19 - Version 2

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**Ameritech Version 2 Response**

As stated in its original response dated December 11, 2001, beginning in January 2002, Ameritech has been engaged in extensive efforts to enhance the definition and detail of the documentation of its current data retention architecture. This effort, which required a dedicated six-month effort involving hundreds of subject matter experts and literally thousands of person-hours, has resulted in Ameritech fully documenting, for KPMG, its data retention policies, source data systems, and data flows, for all 153 performance measurements that the company is currently reporting.

Additionally, when necessary to ensure compliance with regulatory requirements, Ameritech has taken action to improve upon its current data retention architecture.

These efforts were completed in June of 2002 and have allowed Ameritech to verify and document the following results:

- Validation of all source systems for each of the 153 performance measures currently being reported.
- Definition of all systems responsible for storage of source data, titled a 'System of Record' (SOR), for each of the 153 measures currently being reported.
- Collection of all data retention policies and practices affecting each of the 153 performance measures currently being reported.
- Initiation of an improvement plan for each Systems of Record not previously meeting KPMG's requirements.<sup>1</sup>
- Documentation on the flow of raw unprocessed data to its performance measurement generation form for each of the 153 performance measures currently being reported.

The volumes of documentation that Ameritech has now provided to KPMG will allow KPMG to easily discern Ameritech's data retention policies and practices on an individual source system basis. As a result, Ameritech's data retention policies regarding source data enable complete and thorough audits of retrospective data consistent with applicable regulatory retention requirements.

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<sup>1</sup> Ameritech understands KPMG's requirements to be those as specified in a November 8, 2001 memo from John Eringis to state commission staffs and Ameritech outlining data retention requirements. These regulatory requirements do not specify retaining data in its original unmodified form nor do they contain the specific requirements for data to be retained within the data flow. As such, Ameritech believes that, with the exceptions noted in this document, it is in full compliance with regulatory requirements and, is in substantial compliance with KPMG's requirements.

**Ameritech Response to KPMG Exceptions (continued)**

A detailed analysis of the product of this effort has confirmed the following performance measurement data retention attributes in Ameritech:

<b>Performance Measurement Data Retention Analysis</b>	
<b>Performance Measure Analysis</b>	
Number of Measures Currently Reported	153
Number of Measures with Retention as required	144
% of Measures with Retention as required	94.1%
<b>Source Data Element Analysis</b>	
Source System Unique Elements	1180
Unique Elements with Retention as required	1135
% of Unique Elements with Retention as required	96.2%
<b>Retention System of Record Analysis</b>	
Retention System of Records (SOR) Identified	55
Retention SORs with Retention as required	52
% of Retention SORs with Retention as required	94.5%

Further definition of these retention details is provided below.

**Performance Measure Analysis** is conducted on a performance measure by measure basis. Results of this data retention investigation have confirmed the assertion in Ameritech’s December 11, 2001 response to Exception 19, relative to the number of measures (67%) which are currently retained in an appropriate architecture. Furthermore, after a detailed assessment of these results Ameritech can also confirm the type of architecture described in Ameritech’s initial response to Exception 19 applies to an additional 27% of the performance measurements currently being reported. Therefore Ameritech is able to confirm that a systems architecture conforming to KPMG’s requirements (for retaining performance measurement data in its original unmodified form) applies to over 94% of the measures currently being reported. The retention of data in its original unmodified form for the remaining 6% is described below.

**Source Data Element Analysis** assesses these same performance measurements on an element by element basis. This further analysis of Ameritech’s investigation efforts allows for a more detailed perspective as to the degree of unique source data elements that Ameritech is retaining in accordance with the requirement to support thorough and complete audits. Through further analysis Ameritech is retaining, within the type of architecture described in Ameritech’s initial response to Exception 19, over 96% of the unique elements required for production of the 153 performance measures currently being reported. The retention of data in its original unmodified form for the remaining 4% is described below.

**Retention System of Record (SOR) Analysis** addresses the source systems that Ameritech has identified as retention points for its performance measurement data or as the storage location of performance measurement data in its original unmodified form. Of the 55 System of Records that Ameritech has identified for the 153 performance measures, over 94% offer the type of architecture described as appropriate in Ameritech’s initial response to Exception 19. The retention of data in its original unmodified form for the remaining 6% is described below.

**Ameritech Response to KPMG Exceptions (continued)**

Ameritech's investigation also revealed that three Systems of Record may require some enhancements in order to retain performance measurement data in its original form in either the source system or a system directly in the flow of the performance measure. These three systems and the performance measurements impacted are as follows:

System	PMs Impacted	PMs	Elements Impacted	Current Retention
CAMPS	4	14, 16, 19, 20	19	1 year
EDI/CORBA	3	2, MI 10, MI 16	10	60 days
RBS	3	15, 18, 20	16	2 years

The relative impact of each system (or file) on the associated measurement sets are detailed below.

System	PMs Impacted	Associated PMs	Elements Impacted	Total Elements in Associated PMs	Percentage of Elements Impacted
CAMPS	4	14, 16, 19, 20	19	91	20.9%
EDI/CORBA	3	2, MI 10, MI 16	10	49	20.4%
RBS	3	15, 18, 20	16	70	22.9%

The data used in the generation of these nine performance measures identified above is being retained by Ameritech for a period of three years. However, this retention may not be within the origination file or system, or to the degree of detail existing in the specific element's origination, and therefore does not meet KPMG's requirement. However, Ameritech is confident that the data retained is in sufficient form that would support audits and/or CLEC data reconciliation until the architecture improvement plans have been completed. The following is a summary of the data elements impacted and the retention impacts.

- EDI / CORBA: One file containing pre-order transaction details is generated by EDI / CORBA for generation of performance measurements. Most of the data contained in this file is loaded into the ICS / DSS database. ICS/DSS retains the data it loads from this file for the requisite three years. It is Ameritech's position that it is currently retaining all of the data required to meet regulatory requirements, albeit not in a manner that would satisfy KPMG's requirements. The only narrow difference appears to be KPMG's requirement that the data not be filtered. However, under Ameritech's current approach only the source data needed for performance calculations from EDI/CORBA is retained in ICS/DSS. This source data is retained for three years and it can be used to support audits and/or CLEC data reconciliation.
- RBS: There are three RBS files used for Ameritech's billing performance measurements. These files are currently retained for a period of 2 years. One file is used in the bill validation process and contains the electronic bill file sent to the CLEC. This data is available, within retention guidelines, in the summary format used for generation of the associated measures. The other 2 files each contain 1 data element, and are retained in summary format for the requisite period of time. It is Ameritech's position that it is currently retaining all of the data required to support audits and/or CLEC data reconciliation and meets regulatory requirements, excepting those which require data to be retained in excess of two years. In these few instances, although Ameritech is not retaining source data for three years, it is retaining adequate processed data and records for three years and that data can be used to support audits and/or CLEC data reconciliation.

## Ameritech Response to KPMG Exceptions (*continued*)

- CAMPS: The data not currently within the retention parameters is usage data used in Ameritech's billing measures that are currently being retained for 400 days. This data is available, within retention guidelines, in the summary format used for generation of the associated measures, which can be used to support audits and/or CLEC data reconciliation.

### Data Architecture Improvement Plans

Ameritech believes that its data retention policies for these three source systems are adequate and meets all regulatory reporting requirements. However, Ameritech is currently developing three Architecture Improvement Plans (AIPs), one for each system identified above. These AIPs will focus on the costs and time required to enhance the retention architecture or retention term of the System of Record or a source file containing measurement source data to comply with KPMG data retention requirements. By October 1, 2002, SBC Ameritech will have completed its analysis and fully developed implementation plans (including any associated business cases). At that time Ameritech will report to the Commission its proposed course of action. To the extent Ameritech determines that an enhancement is not appropriate or cost justified, it will provide its alternative recommendation to the Commission and KPMG.

### Conclusion

Through these extensive efforts, Ameritech's performance measurement data architecture meets regulatory requirements. It is capable of supporting thorough and complete audits, it will facilitate the resolution of any potential data disputes concerning CLECs, Ameritech and/or regulatory agencies and it ensures Ameritech's ability to regenerate performance measurement reports as required. KPMG should resume its review of Ameritech's data retention immediately.

## **Ameritech Response to KPMG Exceptions (*continued*)**

### **Original Exception**

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### **Issue**

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On July 24, 2001 KPMG Consulting requested from Ameritech data retention policies for what had been identified as source systems in order to determine the retention of source system data. Over the course of the next several months, KPMG Consulting worked with Ameritech to obtain the required information. To date, KPMG Consulting has been unable to discern from Ameritech its data retention policies and practices on an individual source system basis. Ameritech provided a document which indicates that systems which first capture the data used in Performance Measurement Reporting "...are transactional systems, not reporting systems, they typically do not retain data for more than one or two months."

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### **Assessment**

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### **Ameritech Response to Exception 19**

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## Ameritech Response to KPMG Exceptions (*continued*)

group of performance measurements from an OSS system that retains the data in its original form. This may be the OSS that originally created the data, or a “downstream” OSS to which the data has been passed unchanged.

2. For data extracted from an OSS, that universe of data will be retained in the original extract file format in a file repository. These source files are typically ASCII flat files, which are readily readable through a variety of 3<sup>rd</sup>-party software products.
3. Production reporting processes will read and process records from these original extract files, on a scheduled basis, to populate reporting databases. In many cases this process will derive new data fields based on data from the extract files. Broad exclusion criteria, applicable to a group or class of measurements (Resale Maintenance measures, for example) will also be applied, in some cases, at this step of the process.
4. The remainder of exclusion/inclusion logic, along with organization of the data for disaggregated reporting, would be completed in the reporting applications, along with the actual calculation of the results.

In regard to retention of the performance measurement data in its original form, Ameritech has confirmed that the type of architecture described above has been implemented for approximately two-thirds (67%) of the performance measurements currently being reported. Ameritech continues its investigation to verify that the data for the additional approximately one-third (33%) of the measurements is being retained in its original form. Ameritech is working aggressively to complete this investigation, and will share the results as they become available.

Ameritech continues to work with KPMG to complete the data request of July 24<sup>th</sup>, and expects this request to be completed shortly. It is expected that additional joint work between Ameritech and KPMG will be required to complete the assessment of all Ameritech data retention policies as they apply to performance measurements, as the July 24<sup>th</sup> request was limited to specific systems and performance measurements. With the KPMG staff working on-site at Hoffman Estates, Ameritech expects this area of work to progress quickly.



**Date:** October 30, 2002

**To:** OSS Test Project Management Team

**From:** AIT OSS Test Project Management Team

**Subject:** Supplemental Response to Exception 19, Version 2 - Architecture Improvement Plan Process for CAMPS, EDI / CORBA and RBS

On July 25, 2002 Ameritech updated its response to Exception #19 and described the significant progress that had been achieved in enhancing and documenting its performance measurement data retention architecture and policies. The July 25<sup>th</sup> response also identified three (3) retention systems of record, CAMPS, EDI/CORBA & RBS, for which the company was developing Architecture Improvement Plans ("AIPs"). The AIPs for these three source systems were focused on enhancements to ensure retention of performance measurement source data in its original form, in either the data's source system or a system directly in the flow of the performance measurement data collection path. As stated in Ameritech's July 25<sup>th</sup> response, the impact of the affected data sourced from these three systems on performance measurements prior to any potential enhancement resulting from these proposed AIPs was quantified as follows:

System	PMs Impacted	Associated PMs	Elements Impacted	Total Elements in Associated PMs	Percentage of Elements in associated PMs Impacted
CAMPS	4	14, 16, 19, 20	19	91	20.9%
EDI/CORBA	3	2, MI 10, MI 16	10	49	20.4%
RBS	3	15, 18, 20	16	70	22.9%

As explained in its July 25<sup>th</sup> response, Ameritech retained the metric data sourced from these three systems for a period of three years. However, the then existing retention was not, in all instances, within the origination location, or to the degree of detail existing in the specific element's origination, and therefore did not meet the retention requirements expected by BearingPoint. Although Ameritech was confident this data was being retained in sufficient form to support audits and/or CLEC data reconciliation, Ameritech nonetheless agreed to develop and report to the Commissions on the architecture improvement plans ("AIPs"). The purpose of these AIPs was to ensure that the 45 data elements for the three systems shown in the chart above would be retained in original form for a period of three years.

The purpose of this supplemental response to Exception 19 is to advise that Ameritech has completed its architecture improvement analysis, and has provided revised data retention documentation to BearingPoint for each of these three systems of record. In