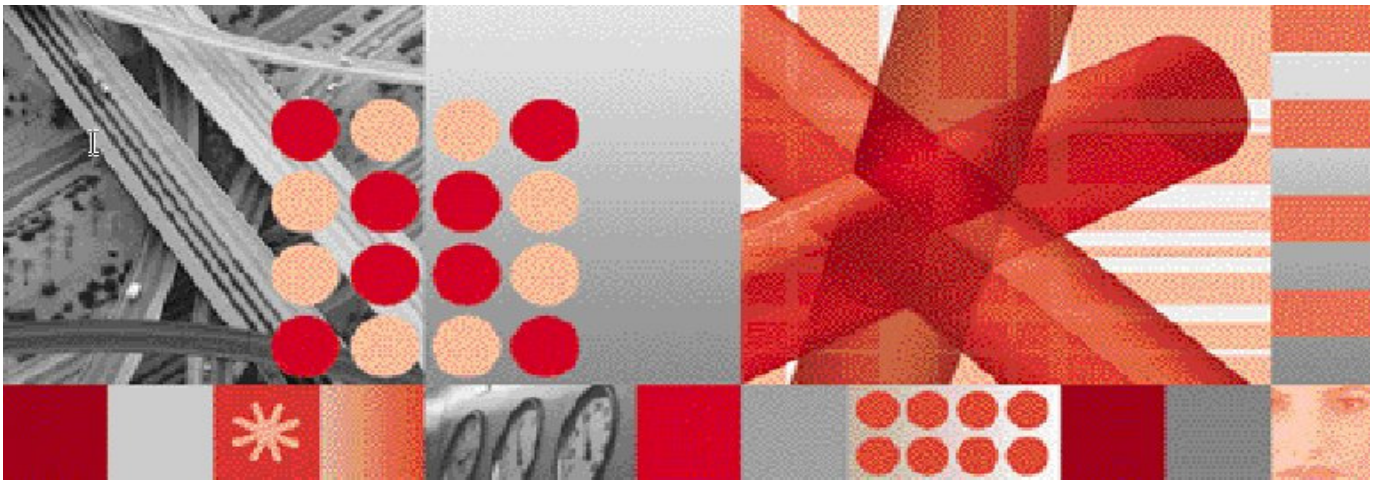
Tivoli. Netcool® Performance Manager for Wireless

IBM

Version 3.4.0.2



Siemens BSS Gateway Configuration Distribution Note

Note: Before using this information and the product it supports, read the information in Notices on page 28.

This edition applies to IBM® Tivoli® Netcool® Performance Manager for Wireless and to all subsequent releases and modifications until otherwise indicated in new editions.

Table of Contents

1 About this Documentation

1.1 Audience

The target audience of this document is IBM Performance Manager for Wireless customers. They should be familiar with telecommunication and IT principles and should also have a good understanding of Solaris.

IMPORTANT: Before attempting an installation of Performance Manager for Wireless you are strongly advised to read the release notes and any readme files distributed with your Performance Manager for Wireless software. Readme files and release notes may contain information specific to your installation not contained in this guide. Failure to consult readme files and release notes may result in a corrupt, incomplete or failed installation.

Note: Performance Manager for Wireless Administrators should not, without prior consultation and agreement from IBM, make any changes to the Index Organized tables or database schema. Changes to the Index Organized tables or database schema may result in corruption of data and failure of the Performance Manager for Wireless System. This applies to all releases of Performance Manager for Wireless using all versions of interfaces.

1.2 Required Skills and Knowledge

This guide assumes you are familiar with the following:

- General IT Principles
- Sun Solaris Operating System
- Oracle Database
- Windows operating systems
- Graphical User Interfaces
- Network Operator's OSS and BSS systems architecture

This guide also assumes that you are familiar with your company’s network and with procedures for configuring, monitoring, and solving problems on your network.

2 Associated Documents

The following documentation accompanies this release:

2.1 Referenced Documents

Document Name	Document Description
[Gateways Install Note]	This document describes the steps required to install and run a Gateway.

2.2 Other Related Documents

Document Name	Document Description
[Gateway Framework User Guide]	Gateway Framework User Guide describing the management and configuration of the Gateway Framework.
[Siemens BSS Gateway User Guide]	Siemens BSS Gateway User Guide describing the management and configuration of the Vendor Gateway.

3 Introduction

You should read this Distribution Note before proceeding to install the Gateway Configuration.

For information on the Gateway Framework, its configuration and use refer to the [Gateway Framework User Guide].

The Gateway Framework and Vendor Gateway are supplied as separate packages. As part of the Vendor Gateway installation process, it must reference a Gateway Framework installation. This separation simplifies the maintenance and version control of multiple vendor Gateway installations on a single server.

This Distribution Note provides an overview of the release history of the Gateway Configuration.

3.1 Vendor Gateway Version

This Gateway Configuration requires the following Vendor Gateway:

- Siemens BSS Gateway 3.4.0.3
- 3gpp-xml Gateway 3.4.3.1

4 Release History

4.1 Release 3.4.0.2

Release date 21 October 2010.

Listed below are the bug fixes for this release.

#	Description
alm00199630	CONCENTRIC CELL DATA LOADS INTO THE SCANBTS BLOCK DUE TO LIFFILES WHICH BEGIN WITH NAME SCANBTS_ADD
alm00211426	GSMGPRS_Siemens_BSS_BR10-2.0.0.0: Error message observed in gateway log
alm00211554	GSMGPRS_Siemens_BSS_BR10-2.0.0.0: Error of invalid token

4.2 Release 3.4.0.1

Release date 17 June 2008.

Listed below are the bug fixes for this release.

#	Description
valnt00041862	Removal of counters with <NULL> as value from hierarchy LIF files.

4.3 Release 3.4.0

Release date 21 May 2008.

Listed below are the enhancements to this release.

#	Description
1	Support for Siemens BSS BR9 data.

5 Data type and releases supported

Gateway Configuration	Vendor Performance data	Release
br8	Siemens BSS ASCII	BR8 without hierarchy data
br9	Siemens BSS ASCII	BR8 & BR9 with hierarchy data
br10	Siemens BSS XML	BR10 XML with hierarchy data

5.1 Raw input files

5.1.1 ASCII format

Scope	Attended Format/Syntax
Input files names to expect	Example: BR90_09.20070917220000+0000.20070918000000+0000-000.ASCII Where: <BSS|BRxx>_<BssId>.<StartRangeDateTime>.<EndRangeDateTime>.ASCII
Input file formats to expect	Mean number of busy TCHs (Fullrate, Halfrate) (1,0) 2007-09-17 23:00:00+00:00 bts {9 0 0} 90 BSS:9/SCANBTS:0 60 1 0 0 0 0.00 0.00 All available TCH Allocated Time (1,1) 2007-09-17 23:00:00+00:00 bts {9 0 0} 90 BSS:9/SCANBTS:0 60 1 0 0 0 0.0 0.0 0.0 0.0 0.0 0.0 Number of lost Radio links while using a TCH (Fullrate, Halfrate) (1,2) 2007-09-17 23:00:00+00:00 bts {9 0 0} 90 BSS:9/SCANBTS:0 60 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Number of lost Radio links while using a SDCCH(1,3) 2007-09-17 23:00:00+00:00 bts {9 0 0} 90 BSS:9/SCANBTS:0 60 1 0 0 0 0 0 0 0 0 0 Successful Internal Handovers Intracell per cause (1,4) 2007-09-17 23:00:00+00:00 bts {9 0 0} 90 BSS:9/SCANBTS:0 60 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

	Total number of accesses by procedures (1,5) 2007-09-17 23:00:00+00:00 bts {9 0 0} 90 BSS:9/SCANBTS:0 60 1 0 0 0 0 0
Equipment/devices to expect data	N/A
Extraction mechanism	N/A
Transfer mechanism	N/A

5.1.2 3gpp-xml format

Scope	Attended Format/Syntax
Input files names to expect	Example: C20090112.0100+0100-20090112.0300+0100_01 Where: <C><StartRangeDate>.<Time>+<TZ>- <EndRangeDate>.<Time>_<value> Example: PM200901221438+01000C20081125.2300+0100- 20081126.0000+0100_01 Where: <Optional prefix><C><StartRangeDate>.<Time>+<TZ>- <EndRangeDate>.<Time>_<value>
Input file formats to expect	<?xml version="1.0" ?> <measCollecFile xmlns:HTML="http://www.w3.org/TR/REC-xml"> <fileHeader fileFormatVersion="32.401 V4.2" vendorName="Nokia Siemens Networks"> <fileSender localDn="ManagedElement=BSS-1" elementType="BSS"/> <measCollec beginTime="2009-01-12T01:00:00+01:00" /> </fileHeader> <measData> <managedElement localDn="ManagedElement=BSS-1" userLabel="BSS" swVersion="BR10.0"/> <measInfo> <granPeriod duration="PT60M" endTime="2009-01-12T03:00:00+01:00" /> <measTypes>NTDMAGCH.1 NTDMAGCH.2 NTDMAGCH.3 NTDMAGCH.4 NTDMAGCH.5 NTDMAGCH.6 </measTypes> <measValue measObjLdn="BSS:1,BTSM:7,BTS:0 - BSS:1,TGTBTS:16" > <measResults>149 339 0 0 0 0 </measResults> <suspect>false</suspect> </measValue> </measInfo> </measData> <fileFooter> <measCollec endTime="2009-01-12T03:00:00+01:00" />

	</fileFooter> </measCollecFile>
Input file formats that are not supported (BR9 XML Data)	BR9 xml data is available in the following format. Here we can find the measObjLdnAdj with measObjLdn. measObjLdnAdj is filled in case adjacent ID is required e.g. Neighbor (i.e. Source ID and Adjacent ID). measObjLdnAdj value is blank in case adjacent ID is not needed. Example: <measValue measObjLdn="BSS:6,BTSM:0,BTS:5" measObjLdnAdj="" > <measValue measObjLdn="BSS:6,BTSM:0,BTS:0" measObjLdnAdj="BSS:6,TGTBTS:7" >
Equipment/devices to expect data	N/A
Extraction mechanism	N/A
Transfer mechanism	N/A

5.2 Hierarchy input files

Scope	Attended Format/Syntax
Input files names to expect	Example: omc1bsc25.br90.asc Note: The file name is not normalized.
Input file formats to expect	SET MEL:NAME=MEL:0,MELID=25; SET BSC:NAME=BSC:0,NETWTYPE=GSMDCS,T3122=5,ERRACT=NOFILTER-NOFILTER-NOFILTER-NOFILTER-NOFILTER,MAXNCELL=16,MSCV=PHASE2EFR,OVLSTTHR=9500,OVLENTHR=8500,BSCOVLH=TRUE,BTSOVLH=TRUE,MSCOVLH=TRUE,EISDCCHHO=ENABLED,ENFORCHO=ENABLED,NTWCARD=NTWSNAP,AMONTH=ENABLED(30)-ENABLED(60)-ENABLED(90),SPENLAW=A_LAW,PCMTYPE=PCM30,EFRSUPP=TRUE,CICFM=GSM,EPOOL=FALSE,MSCPOOL=FALSE,HRSPEECH=TRUE,SPEED145=FALSE,ENHSCSD=FALSE,ENFOIAHO=TRUE,HOSYNC=SYNC,ASUBISAT=FALSE,AISAT=FALSE,EPREHSCSD=DISABLED,MAFIRACHO=2,MADGRLV=2,NOTFACCH=HIGHEQB,MNTBMASK=BIT17|BIT41|BIT47,DLAPDOVL=TRUE,MEDAFUST=19-9,HDCFUPE=UPPE1H,MEDAFUPE=UPPE_1H,MASCLOGFS=3,CFS=1,IMSIFSIZ=30,HDCFS=1,ALRMSEVBTS=CRITICAL,ALRMSEVBTSM=CRITICAL,ALRMSEVCBCL=MINOR,ALRMSEVLPDLM=CRITICAL,ALRMSEVLPDLR=MAJOR,ALRMSEVLPDLS=CRITICAL,ALRMSEVOMAL=CRITICAL,ALRMSEVPCMA=MAJOR,ALRMSEVPCMB=MAJOR,ALRMSEVPCMS=CRITICAL,ALRMSEVTRAU=CRITICAL,ALRMSEVTRX=MAJOR,ALRMSEVPCU=CRITICAL,ALRMSEVFRL=MINOR,ALRMSEVNSVC=MINOR,ALRMSEVPTPPKF=MAJOR,ALRMSEVPCMG=MAJOR,ALRMSEVNSEVCIP=MINOR,ALRMSEVNSEVLIP=MINOR,ALRMSEVNSE=MAJOR,ALRMSEVSS7L=MINOR,ALRMSEVSTLSB=MINOR,ALRMSEVGBIPLINK=MAJOR,ALRMSEVLINKSET=MAJOR,ALRMSEVDPC=MINOR,ALRMSEVTPC=MINOR,BSCT1=HLFSEC-

	12,BSCT3=HLFSEC-50,BSCT4=HLFSEC-60,BSCT7=HLFSEC-11,BSCT8=HLFSEC-10,BSCT10=HLFSEC-10,BSCT11PUB=HLFSEC-16,BSCT13=HLFSEC-50,BSCT17=HLFSEC-20,BSCT18=HLFSEC-60,BSCT19=HLFSEC-12,BSCT20=HLFSEC-12,BSCTQHOPUB=HLFSEC-20,BSCT3121=HLFSEC-10,TCBCSI=1,TRACEMR=TRUE,TRACEMG=1,TRFCT=20,EPA=FALSE,CBCPH=PH1_CBC,TGUARDTCHSD=SEC10,CITASUP=FALSE,LCSNSSC=FALSE,SIMSCREL99=TRUE,CSCH3CSCH4SUP=TRUE,ACCEPTGDEGR=PER0,EUSDCHO=FALSE,ALRMSEVSGSNPOOL=MAJOR,ESUP=TRUE,NECI=FALSE,ASCIONECHMDL=FALSE,SYSPACKSYSSUP=FALSE,MISTSTRSH=3,BSCT11WPS=HLFSEC-56,BSCTQHOWPS=HLFSEC-20,TYPOFAMC=DK40,TYPOFETH=ETHERNETII,ROUIPADD0=<NULL>,ROUIPADD1=<NULL>,SUBNETMASK0=<NULL>,SUBNETMASK1=<NULL>,NACCNTWCOR=NC0,TRANSPM=FALSE,TDTMWIND=5,MAXLAPDMN=5,EENHDTMSUP=DISABLED,T3197=4,PAGCOORCLB=DISABLED,DGRSTRGYBCNT=DISABLED,PAGQOVLIND=0,BSEPRIPFC=3-0-1,SMSPRIPFC=3-0-1,TOM8PRIPFC=3-0-1,SIGPRIPFC=1-1-0,TEMLD=HLFSEC-12,TEMDTOL=HLFSEC-60,TNEMLD=HLFSEC-36,TNEMDTOL=HLFSEC-90,ULPWRD=5,CITAMEASSUP=FALSE,ASCIDTXDL=FALSE,ENACCTRIR=2,ENACCTRI=2,ENACCTRIAE=2,ENACCTREP=30,ENACCTRL=24,ENACCTRIRCM=3,ENACCTRICM=3,ENACCTRIAECM=3,NTWID="284"-"01",CENNSOVLC=TRUE,NSLOAD=92-85,NSMEMALL=20-25,EPCUBMOD=FALSE; BRIDGE BSC:NAME=BSC:0,RELCMD=SET,RELOBJ=BSC:0,ATT1="E_CR2661"-B(TRUE),ATT2="PRIOPERNOTFA"-I(7); SET BSCE:NAME=BSCE:0,ALRMSEVDISK=MAJOR,ALRMSEVDK40=MAJOR,ALRMSEVEPWR=MAJOR,ALRMSEVIXLT=MAJOR,ALRMSEVLICD=MINOR,ALRMSEVLICDS=MINOR,ALRMSEVMEMT=MAJOR,ALRMSEVMPCC=MAJOR,ALRMSEVNTW=MAJOR,ALRMSEVPWRD=MAJOR,ALRMSEVSYNC=MAJOR,ALRMSEVSYNE=MAJOR,ALRMSEVTDPC=MAJOR,ALRMSEVX25A=MAJOR,ALRMSEVX25D=MAJOR,ALRMSEVIPLI=MAJOR,ALRMSEVPPXL=MAJOR,ALRMSEVPPXU=MINOR,ALRMSEVCPEX=MINOR,ALRMSEVFAN=MINOR,ALRMSEVES=MINOR,EAUTOREC=DISABLED; CREATE OPC:NAME=OPC:0,SS7MTPTYP=CCITT,OPC=187-5,FLOWCTH=3,CONGTH=0,SANTIME=10,ERRCORMTD=BASIC_ERROR_CORRECTION,N1=110,N2=3000; INSTALL BOF:NAME=BOF:0,FEA=A32_BSC72_PCU,QTY=2,OPC=187-5,PWD="f5a59e61dfefbb1"; INSTALL BOF:NAME=BOF:0,FEA=F72_HO_2G_3G,OPC=187-5,PWD="cec2d722f2b0131"; INSTALL BOF:NAME=BOF:0,FEA=F78_EDGE,OPC=187-5,PWD="48b38846a8e1761"; INSTALL BOF:NAME=BOF:0,FEA=F113_BSC72_TRX,QTY=500,OPC=187-5,PWD="2c5f6b582091021"; INSTALL BOF:NAME=BOF:0,FEA=F114_BSC72_PDT_PCU,QTY=256,OPC=187-5,PWD="059cee94edd2101";

	SET BSC:NAME=BSC:0,ENCALSUP=NOENCR&GSMV1,TRFPS=FALSE,NCRESELFLAG=DISABLE,EUSCNCRESEL=FALSE,CCHANTFACT=FALSE,EARP=FALSE,ULPWRDSUP=FALSE,ASCIBROADP=FALSE,ENACCE=FALSE,CCHNOACT3GPP=FALSE,EMSC3033=FALSE,EAMR=FALSE; CREATE HDCTR:NAME=HDCTR:0,START=1-JAN-1995,STOP=31-DEC-2099,PERWEEK=ALL(0),MEASET=16; CREATE EPWR:NAME=EPWR:0; CREATE EPWR:NAME=EPWR:1; CREATE LICDS:NAME=LICDS:0; CREATE LICD:NAME=LICD:0,ALARMT1=200,ALARMT2=10,ALARMT3=5,ALACOUNT=32; CREATE LICD:NAME=LICD:1,ALARMT1=200,ALARMT2=10,ALARMT3=5,ALACOUNT=32;
Equipment/devices to expect data	N/A
Extraction mechanism	N/A
Transfer mechanism	N/A

Note:
Customer needs to regenerate the hierarchy PIF if there is a change in the hierarchy data. If the old hierarchy PIF data is not overwritten (e.g. due to different hierarchy file naming convention) then old hierarchy PIF data inside inter_d folder should be deleted after regenerating the new PIF file.

6 Configurations

6.1 Transfer Engine configuration

Transfer engine can be configured to transfer raw input files into the Gateway input processing directory (e.g., spool/input_d/). Instructions for configuring Transfer engine can be found in the [Gateway Framework User Guide].

6.2 Parser Engine configuration

Refer to the [Siemens BSS Gateway User Guide] for the Engine Configuration for Siemens BSS.

6.2.1 Initial PIF File Name Convention for BR9

Example for PM file:

SCANBSC-#-25-#-25-#-23Apr2008-#-00:00-#-25-#-PM-#-1202021149-#-I.pif

Initial PIF file name is configured to have the following convention:

<Block_Name>-#-<BSS_ID>-#-<BSC_ID>-#-<ENDDATE>-#-<ENDTIME>-#-<BSC_ID>-#-PM-#-<PIF_counter>-#-I.pif

Example for hierarchy (.asc) file:

omc1bsc25.br90-#-BTS-#-I.pif

Initial PIF file name is configured to have the following convention:

<Raw_File_Name>-#-<CREATE_COMMAND_TYPE>-#-I.pif

6.2.2 Initial PIF File Name Convention for BR10

Example for PM file:

SCANBSC-#-25-#-23Apr2008-#-00:00-#-20080423.0000-#-01-#-1202021149-#-I.pif

Initial PIF file name is configured to have the following convention:

<Block_Name>-#-<BSS_ID>-#-<ENDDATE>-#-<ENDTIME>-#-<FILENAME>-#-<FILENAME>-#-<PIF_counter>-#-I.pif

Example for hierarchy (.asc) file:

omc1bsc25.br90-#-BTS-#-I.pif

Initial PIF file name is configured to have the following convention:

<Raw_File_Name>-#-<CREATE_COMMAND_TYPE>-#-I.pif

6.2.3 Block Name (PM data) for BR9

The Block Name is mapped to the Scanner Class ID and Measurement Number found in the Siemens BSS PM raw file.

Output Block Name	Scanner Class ID, Measurement Number
SCANBSC	0,ALL Measurement Numbers except 13 and 41
SCANBSC_0_13	0,13
SCANBSC_0_41	0,41
SCANBTS	1,ALL Measurement Numbers
SCANBTSE	2,ALL Measurement Numbers
SCANBTSIHO	3,ALL Measurement Numbers
SCANBTSM	4,ALL Measurement Numbers
SCANBTSOHOI	5,ALL Measurement Numbers except 2
SCANBTSOHOI_5_2	5,2
SCANBTSOHON	6,ALL Measurement Numbers
SCANCHAN	7,ALL Measurement Numbers
SCANCTRX_CRXLVQUU	8,0
SCANCTRX_CRXLVQUD	8,1
SCANCTRX_CRXLVTAU	8,2
SCANCTRX_CRXLVTAD	8,3
SCANCTRX_CFERRXQU	8,4
SCANGPRS	9,ALL Measurement Numbers
SCANSS7L	10,ALL Measurement Numbers
SCANTRX	11,ALL Measurement Numbers
SCANBTSOHOS	12,ALL Measurement Numbers
SCANFBTSM	13,ALL Measurement Numbers
SCANDPC	14,ALL Measurement Numbers
SCANNSVC	15,ALL Measurement Numbers
SCANATMVC	16,ALL Measurement Numbers
SCANATMVP	17,ALL Measurement Numbers

6.2.4 Block Name (PM data) for BR10

The Block Name is mapped to the XML tag attribute measObjLdn which is found in the XML tag measValue in Siemens BSS PM raw file. If a measObjLdn can have more than one block name, then the block name is mapped to the data counters.

Output Block Name	measObjLdn
SCANBTSM, SCANFBTSM	BSS,BTSM
SCANBSC SCANBSC_EBSC SCANBSC_MPCC SCANBSC_PPXU SCANBSC_TDPC SCANBSC_EBSC_BASIC SCANBSC_EBSC_EXTENDED	BSS,BSC
SCANDPC	BSS,DPC
SCANTRAU SCANTRAU_HIGH_INTEGRATED	BSS,TRAU
SCANTRX SCANCTRX_CRXLVQUU SCANCTRX_CRXLVQUD SCANCTRX_CRXLVTAU SCANCTRX_CRXLVTAD SCANCTRX_CFERRXQU	BSS,BTSM,BTS,TRX
SCANSS7L	BSS,SS7L
SCANCHAN	BSS,BTSM,BTSM,CHAN,TRX
SCANBTSIHO SCANBTSOHOI	BSS,BTSM,BTS - BSS,BTSM,BTS
SCANBTSOHON	BSS,BTSM,BTS - BSS,TGTBTS
SCANBTSOHOS	BSS,BTSM,BTS - BSS,TGTFDD
SCANBTS SCANBTS_CONCENTRIC SCANBTS_STANDARD SCANBTS_EXTENDED SCANBTSE	BSS,BTSM,BTS
SCANGPRS	BSS,BTSM,BTS,PTPPKF
SCANNSVC	BSS,NSVC
SCANATMVC	BSS,ATMVP,ATMVC
SCANATMVP	BSS,ATMVP

6.2.5 Block Name (Hierarchy data) for BR9

The Block Name is mapped to the CREATE command found in the Siemens ASC raw file.

Output Block Name	CREATE command
CREATEBTS	CREATE BTS
CREATETRX	CREATE TRX
CREATECHAN	CREATE CHAN
CREATEFRL	CREATE FRL
CREATENSVC	CREATE NSVC
CREATEPCU	CREATE PCU
CREATENSE	CREATE NSE
CREATEPTPPKF	CREATE PTPPKF

6.2.6 Block Name (Hierarchy data) for BR10

The Block Name is mapped to the CREATE command found in the Siemens ASC raw file.

Output Block Name	CREATE command
CREATEBTS	CREATE BTS
CREATETRX	CREATE TRX
CREATECHAN	CREATE CHAN
CREATEFRL	CREATE FRL
CREATENSVC	CREATE NSVC
CREATEPTPPKF	CREATE PTPPKF
CREATETGTBTS	CREATE TGTBTS

6.2.7 measSet Configuration for BR9

The counters found in the SCANBTSIHO and SCANBTSOHOI blocks were renamed according to the value of the measSet counter found in the block itself. The following table illustrates how counters were renamed according to the measSet value.

measSet	Counters renamed
0,4,5,7	No renaming
1	Rename counters 12,13,14,15,16,17,18,19,20,21,22 to 13,14,15,16,17,18,19,20,21,22,23 respectively. E.g., C3_0_12 renamed to C3_0_13, C3_0_13 renamed to C3_0_14 and etc. This applies to counters belonging to (3,0),(3,1),(5,0) and (5,1) only.

2	Rename counters 12,13,14,15,16,17,18,19,20,21,22 to 25,26,27,28,29,30,31,32,33,34,35 respectively. E.g., C3_0_12 renamed to C3_0_25, C3_0_13 renamed to C3_0_26 and etc. This applies to counters belonging to (3,0),(3,1),(5,0) and (5,1) only.
3	Rename counters 12,13,14,15,16,17,18,19,20,21,22 to 13,14,15,16,17,18,19,20,21,22,23 respectively. E.g., C3_0_12 renamed to C3_0_13, C3_0_13 renamed to C3_0_14 and etc. Rename counters 23,24,25,26,27,28,29,30,31,32,33 to 25,26,27,28,29,30,31,32,33,34,35 respectively. E.g., C3_0_23 renamed to C3_0_25, C3_0_24 renamed to C3_0_26 and etc. Rename counters 34,35,36,37,38,39,40,41,42,43,44 to 37,38,39,40,41,42,43,44,45,46,47 respectively. E.g., C3_0_34 renamed to C3_0_37, C3_0_35 renamed to C3_0_38 and etc. This applies to counters belonging to (3,0),(3,1),(5,0) and (5,1) only.
6	Rename counters 13,14,15,16,17,18,19,20,21,22,23,24 to 25,26,27,28,29,30,31,32,33,34,35,36 respectively. E.g., C3_0_13 renamed to C3_0_25, C3_0_14 renamed to C3_0_26 and etc. This applies to counters belonging to (3,0),(3,1),(5,0) and (5,1) only.

The renaming is done using the HEADER_DATA_RECORDING (EngineConfig.pm) functionality.

6.2.8 NETWORK_ID and REGION_ID

The Engine configuration extracts the following information from the directory path where the raw input files are stored (if available).

- NETWORK_ID - Second last directory in the path
- REGION_ID - Last directory in the path

Example:

spool/input_d/NETWORK_PLMN/REGION_1/BR90_28.20080423130000+0000.20080423140000 +0000-000.ASCII

The NETWORK_ID is PLMN and REGION_ID is 1

6.3 Post Parser user configuration

The following data manipulation and additional output blocks are configured for the LIF output.

6.3.1 Manipulation of Data Blocks for BR9

The following data blocks were manipulated to produce LIF output according to the loader specification.

Output Block Names	Post Parsing Rules Applied
CREATEBTS	**PERLIZE**: Rename DATE to ENDDATE and TIME to ENDTIME. Remove counters with <NULL> as value. PIF output only. **ACCUMULATE**: Count the number of TRXs for each BTS in CREATETRX block. PIF output only. **INFOINSERT**: Insert the number of TRXs for each BTS to CREATEBTS block. PIF output only. **COUNT_ROWS**: Count the number of each CHTYPE for each BTS and insert them CREATECHAN block. PIF output only. **PERLIZE**: Rename counters and remove double quotes from counter values for CREATEBTS block. PIF output (used as lookup for Cell data) and LIF output.
CREATETRX CREATECHAN CREATEPTPPKF	**PERLIZE**: Rename DATE to ENDDATE and TIME to ENDTIME. Remove counters with <NULL> as value. PIF output only.

	INFOINSERT: Insert CI and LAC for CREATETRX, CREATECHAN and CREATEPTPPKF blocks from CREATEBTS block. LIF output only.
CREATENSVC	**PERLIZE**: Rename DATE to ENDDATE and TIME to ENDTIME. Remove counters with <NULL> as value. PIF output only. **INFOINSERT:** Insert NMO, NSEI for CREATENSVC block from CREATENSE block. LIF output only
CREATEFRL	**PERLIZE**: Rename DATE to ENDDATE and TIME to ENDTIME. Remove counters with <NULL> as value. PIF output only. **PERLIZE**: Create the counter CIR and assign calculate the value. PIF output only. **PIF_2_OUTPUT:** Output the initial PIF files to LIF files. LIF output only.
CREATETGTBTS	**PERLIZE**: Rename counters and remove double quotes from counter values for CREATEBTS block. PIF output only. **PIF_2_OUTPUT:** Output the initial PIF files to LIF files. LIF output only.
SCANBTSIHO	**INFOINSERT**: Insert ADJ_CI (Adjacent Cell Id) from hierarchy data into performance data as CI. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PERLIZE**: Rename CI as ADJ_CI. **PIF_REMOVE:** Remove the initial PIF files. **INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only.

	PIF_REMOVE: Remove the initial PIF files. **PERLIZE:** Set BTS ID as CI and ADJ BTS ID as ADJ_CI if Cell data is not found. PIF output only. **PIF_2_OUTPUT:** Output to LIF file. LIF output only.
SCANBTSOHOI	**INFOINSERT**: Insert ADJ_CI (Adjacent Cell Id) from hierarchy data into performance data as CI. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PERLIZE**: Rename CI as ADJ_CI. **PIF_REMOVE:** Remove the initial PIF files. **INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set BTS ID as CI and ADJ BTS ID as ADJ_CI if Cell data is not found. PIF output only. **JOIN**: Join initial SCANBTSOHOI blocks (5,0), (5,1) with (5,2). PIF output only. **PIF_2_OUTPUT:** Output to LIF file. LIF output only.
SCANBSC	**JOIN**: Join initial SCANBSC, SCANBSC_0_13 and SCANBSC_0_41 blocks together. LIF output only.
SCANBSC_MPCC SCANBSC_TDPC SCANBSC_PPXU	**FILE_SPLIT_BY_COUNTERS**: Split SCANBSC_0_13 according to processor type. PIF output only. **PIF_2_OUTPUT:** Output to LIF file. LIF output only.

SCANBTSIHO_AGGREGATE	**INFOINSERT**: Insert ADJ_CI (Adjacent Cell Id) from hierarchy data into performance data as CI. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PERLIZE**: Rename CI as ADJ_CI. **PIF_REMOVE:** Remove the initial PIF files. **INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set BTS ID as CI and ADJ BTS ID as ADJ_CI if Cell data is not found. PIF output only. **ACCUMULATE:** Accumulate counters up to Cell level for SCANBTSIHO. LIF output only.
SCANBTSOHOI_AGGREGATE	**INFOINSERT**: Insert ADJ_CI (Adjacent Cell Id) from hierarchy data into performance data as CI. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PERLIZE**: Rename CI as ADJ_CI. **PIF_REMOVE:** Remove the initial PIF files. **INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files.

	PERLIZE: Set BTS ID as CI and ADJ BTS ID as ADJ_CI if Cell data is not found. PIF output only. **JOIN**: Join initial SCANBTSOHOI blocks (5,0), (5,1) with (5,2). PIF output only. **ACCUMULATE:** Accumulate counters up to Cell level for SCANBTSOHOI. LIF output only.
SCANBTSOHON_AGGREGATE SCANBTSOHOS_AGGREGATE	**INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set BTS ID as CI and ADJ BTS ID as ADJ_CI if Cell data is not found. PIF output only. **ACCUMULATE:** Accumulate counters up to Cell level. LIF output only
BTS_AGG_TO_BSC	**INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set BTS ID as CI and ADJ BTS ID as ADJ_CI if Cell data is not found. PIF output only. **FILE_SPLIT_BY_COUNTERS:** Split SCANBTS for C1_0_1 to C1_0_4. PIF output only. **ACCUMULATE:** Accumulate SCANBTS to BSC level for C1_0_1 to C1_0_4. LIF output only.
SCANGPRS_AGGREGATE	**INFOINSERT**: Insert CI (Cell Id) from

	hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set BTS ID as CI and ADJ BTS ID as ADJ_CI if Cell data is not found. PIF output only. **FILE_SPLIT_BY_COUNTERS:** Split SCANGPRS from C9_24_1 to C9_24_3. **ACCUMULATE:** Accumulate SCANGPRS to BSC level. LIF output only.
SCANCHAN_AGGREGATE	**INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set BTS ID as CI and ADJ BTS ID as ADJ_CI if Cell data is not found. PIF output only **FILE_SPLIT_BY_COUNTERS:** Split SCANCHAN for (7,0). PIF output only. **PERLIZE:** Calculate Mean values for SCANCHAN. PIF output only. **ACCUMULATE:** Accumulate SCANCHAN (7,0) to Cell level. LIF output only.
SCANBTS_STANDARD SCANBTS_CONCENTRIC SCANBTS_EXTENDED	**INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files.

	PERLIZE: Set BTS ID as CI and ADJ BTS ID as ADJ_CI if Cell data is not found. PIF output only. **FILE_SPLIT:** Split SCANBTS according to cell type. PIF output only. **PIF_2_OUTPUT:** Output to LIF file. LIF output only.
SCANBSC_eBSC SCANBSC_eBSC_Basic SCANBSC_eBSC_Extended SCANBTSM SCANFBTSM SCANSS7L SCANDPC SCANNSVC SCANATMVC SCANATMVP	**PIF_2_OUTPUT:** Output to LIF file. LIF output only.
SCANGPRS SCANBTS SCANBTSE SCANTRX SCANCHAN SCANBTSOHON SCANBTSOHOS SCANCTRX_CRXLVQUU SCANCTRX_CRXLVQUD SCANCTRX_CRXLVTAU SCANCTRX_CRXLVTAD SCANCTRX_CFERRXQU	**INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set BTS ID as CI and ADJ BTS ID as ADJ_CI if Cell data is not found. PIF output only. **PIF_2_OUTPUT:** Output to LIF file. LIF output only.

6.3.2 Manipulation of Data Blocks for BR10

The following data blocks were manipulated to produce LIF output according to the loader specification.

Output Block Names	Post Parsing Rules Applied
CREATEBTS	**PERLIZE**: Rename DATE to ENDDATE and TIME to ENDTIME. Remove counters with <NULL> as value. PIF output only. **ACCUMULATE**: Count the number of TRXs for each BTS in CREATETRX block. PIF output only. **INFOINSERT**: Insert the number of TRXs for each BTS to CREATEBTS block. PIF output only. **COUNT_ROWS**: Count the number of each CHTYPE for each BTS and insert them CREATECHAN block. PIF output only. **PERLIZE**: Rename counters and remove double quotes from counter values for CREATEBTS block. PIF output (used as lookup for Cell data) and LIF output.
CREATETRX CREATECHAN CREATEPTPPKF	**PERLIZE**: Rename DATE to ENDDATE and TIME to ENDTIME. Remove counters with <NULL> as value. PIF output only. **INFOINSERT:** Insert CI and LAC for CREATETRX, CREATECHAN and CREATEPTPPKF blocks from CREATEBTS block. LIF output only.
CREATENSVC	**PERLIZE**: Rename DATE to ENDDATE and TIME to ENDTIME. Remove counters with <NULL> as value. PIF output only. **INFOINSERT:** Insert NMO for CREATENSVC block from CREATENSE block. LIF output only
CREATEFRL	**PERLIZE**: Rename DATE to ENDDATE and TIME to ENDTIME. Remove counters with

	<NULL> as value. PIF output only. **PIF_2_OUTPUT:** Output the initial PIF files to LIF files. LIF output only.
CREATETGTBTS	**PERLIZE**: Rename DATE to ENDDATE and TIME to ENDTIME. Remove counters with <NULL> as value. PIF output only. **PIF_2_OUTPUT:** Output the initial PIF files to LIF files. LIF output only.
SCANBTSM SCANFBTSM SCANBSC SCANDPC SCANSS7L SCANNSVC SCANATMVC SCANATMVP	**JOIN**: Join initial PIFs together. Output to LIF file.
SCANFBTSM_BSC	From SCANFBTSM data **FILE_SPLIT_BY_COUNTERS**: Split according to the counters IFRMABSC. PIF output only. **ACCUMULATE:** Accumulate to BSC level. LIF output only.
SCANBSC_MPCC SCANBSC_TDPC SCANBSC_PPXU	**FILE_SPLIT_BY_COUNTERS**: Split SCANBSC according to the counters BSCPRCLD. PIF output only. **PIF_2_OUTPUT:** Output to LIF file.
SCANBSC_EBSC	**JOIN**: Join initial PIFs together. PIF output only. **FILE_SPLIT_BY_COUNTERS**: Split according to the counters CNSPRCLD and BSCPRCLD. PIF output only. **PIF_2_OUTPUT:** Output to LIF file.
SCANBSC_EBSC_BASIC SCANBSC_EBSC_EXTENDED	**PERLIZE:** Assign the block name. PIF output only. **FILE_SPLIT:** Split according to the block name. PIF output only. **PIF_2_OUTPUT:** Output to LIF file.
SCANTRAU SCANTRAU_HIGH_INTEGRATED	**JOIN**: Join initial PIFs together. PIF output only. **PERLIZE:** Assign the blockname. PIF

	output only. **FILE_SPLIT:** Split according to the block name. PIF output only. **PIF_2_OUTPUT:** Output to LIF file.
SCANTRX	**INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set CI if it is not found. PIF output only. **PIF_2_OUTPUT:** Output to LIF file.
SCANCTRX_CRXLVQUU SCANCTRX_CRXLVQUD SCANCTRX_CRXLVTAU SCANCTRX_CRXLVTAD SCANCTRX_CFERRXQU	**FILE_SPLIT_BY_COUNTERS**: Split according to the counters CRXLEQTA. PIF output only. **PIF_2_OUTPUT:** Output to LIF file.
SCANCHAN	**INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set CI if it is not found. PIF output only. **PIF_2_OUTPUT:** Output to LIF file.
SCANCHAN_AGGREGATE	From SCANCHAN data **JOIN**: Join PIFs. PIF output only. **FILE_SPLIT_BY_COUNTERS**: Split according to the counters PWRUPDW. Output to PIF. **PERLIZE:** Perform calculation. **ACCUMULATE:** Accumulate. LIF output only.
SCANBTSIHO SCANBTSOHOI SCANBTSOHON	**INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **INFOINSERT**: Insert ADJ_CI (Cell Id) from hierarchy data into performance data.

	PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set CI and ADJ_CI if it is not found. PIF output only. **AGGREGATE_LINE:** Get the total value for the counters in a record. **PIF_2_OUTPUT:** Output to LIF file.
SCANBTSOHOS	**INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set CI if it is not found. PIF output only. **AGGREGATE_LINE:** Get the total value for the counters in a record. **PIF_2_OUTPUT:** Output to LIF file.
SCANBTSOHON_AGGREGATE SCANBTSOHOS_AGGREGATE SCANBTSIHO_AGGREGATE	From SCANBTSOHON / SCANBTSOHOS/ SCANBTSIHO data **JOIN**: Join PIFs. PIF output only. **ACCUMULATE:** Accumulate. LIF output only.
SCANBTSOHOI	From SCANBTSOHOI data **JOIN**: Join PIFs. PIF output only. **ACCUMULATE:** Accumulate. LIF output only. **PERLIZE:** Add counters and values.
SCANBTS	SCANBTS PM data **INFOINSERT**: Insert CI (Cell Id), CONCELL, CELLTYPE from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set CI and ADJ_CI if it is not found. Change the value of CELLTYPE. PIF

	output only. **PIF_2_OUTPUT:** Output to LIF file.
SCANBTS_ADD	FROM SCANBTS_CONCENTRIC & SCANBTS_EXTENDED PM Data **PERLIZE:** Rename the counters in SCANBTS_CONCENTRIC & SCANBTS_EXTENDED. PIF output only. **JOIN**: Join PIFs. Output to LIF file.
SCANBTS_STANDARD SCANBTSE	**INFOINSERT**: Insert CI (Cell Id), CONCELL, CELLTYPE from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set CI and ADJ_CI if it is not found. Change the value of CELLTYPE. PIF output only. **PIF_2_OUTPUT:** Output to LIF file.
SCANBTS_CONCENTRIC SCANBTS_EXTENDED	**INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files. **PERLIZE:** Set CI and ADJ_CI if it is not found. Change the value of CELLTYPE. Assign block name. PIF output only. **FILE_SPLIT:** Split according to the block name. PIF output only. **JOIN**: Join PIFs. Output to LIF file.
SCANGPRS	**INFOINSERT**: Insert CI (Cell Id) from hierarchy data into performance data. PIF output only. **INFOINSERT**: Insert PCUN from hierarchy data into performance data. PIF output only. **JOIN**: Join initial PIF and infoinserted PIF together to provide a single PIF file for the next rule. PIF output only. **PIF_REMOVE:** Remove the initial PIF files.

	PERLIZE: Set CI if it is not found. PIF output only. **PIF_2_OUTPUT:** Output to LIF file.
SCANGPRS_AGGREGATE	From SCANGRPS data **JOIN**: Join PIFs. PIF output only. **FILE_SPLIT_BY_COUNTERS**: Split according to the counter NALIPDCH_1 to NALIPDCH_3. PIF output only. **ACCUMULATE:** Accumulate to BSC level. LIF output only.
BTS_AGG_TO_BSC	From SCANBTS data **JOIN**: Join SCANBTS PIFs. PIF output only. **FILE_SPLIT_BY_COUNTERS**: Split according to the counters MEBUSTCH_1 to MEBUSTCH_2. PIF output only. **PERLIZE:** Change the counter names. PIF output only. **ACCUMULATE:** Accumulate to BSC level. LIF output only. From SCANBTS_CONCENTRIC data **JOIN**: Join SCANBTS_CONCENTRIC PIFs. PIF output only. **FILE_SPLIT_BY_COUNTERS**: Split according to the counters MEBUSTCH_3 to MEBUSTCH_6. PIF output only. **PERLIZE:** Change the counter names. PIF output only. **ACCUMULATE:** Accumulate to BSC level. LIF output only. From SCANBTS_EXTENDED data **JOIN**: Join SCANBTS_EXTENDED PIFs. PIF output only. **FILE_SPLIT_BY_COUNTERS**: Split according to the counters MEBUSTCH_7 to MEBUSTCH_10. PIF output only. **PERLIZE:** Change the counter names. PIF output only. **ACCUMULATE:** Accumulate to BSC level. LIF output only.

Appendix A Notices and Trademarks

This appendix contains the following:

- Notices
- Trademarks

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