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z/OS® V1R9 Communications Server

IBM Health Checker for z/OS enhancements
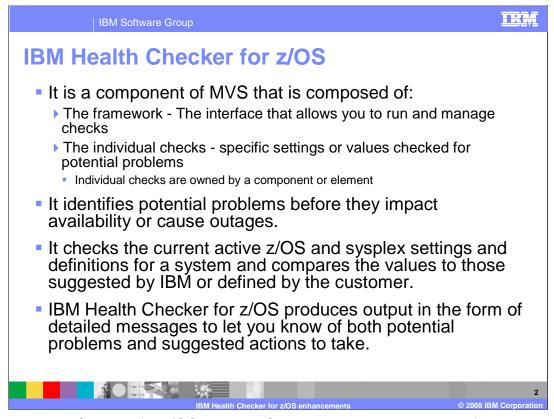
@business on demand.

This presentation describes the enhancements made for Health Checker for Systems Management in z/OS V1R9 Communications Server.

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IBM Health Checker for z/OS

- It is a component of MVS that is composed of:
  - ▶ The framework - The interface that allows you to run and manage checks
  - ▶ The individual checks - specific settings or values checked for potential problems
    - Individual checks are owned by a component or element

- It identifies potential problems before they impact availability or cause outages.

- It checks the current active z/OS and sysplex settings and definitions for a system and compares the values to those suggested by IBM or defined by the customer.

- IBM Health Checker for z/OS produces output in the form of detailed messages to let you know of both potential problems and suggested actions to take.
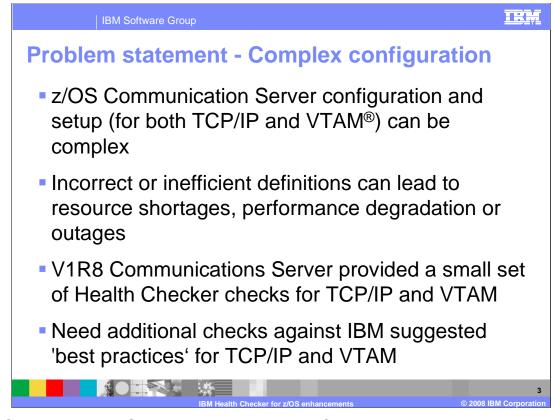
The IBM Health Checker for z/OS is an MVS component that provides a framework for running and managing checks on the MVS system. There is a set of checks that are provided by the z/OS components and elements.

Configuration can be complicated.   Many outages or performance bottlenecks are caused by configuration problems. Sometimes, default values are best guesses. Best practices may not become known until exposure in many environments.
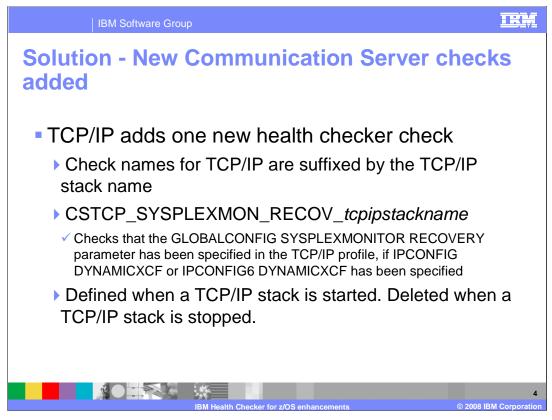
Customers can also create their own checks. The checks provided by IBM will compare current active z/OS and sysplex settings and definitions to those suggested by IBM as 'best practice' values. The intent is to be able to identify potential problems in the z/OS and sysplex configuration before they can impact system performance or availability.

The checks produce output in the form of detailed messages that identify the potential problem and suggest actions to be taken. These messages can be viewed using SDSF, the HZSPRINT utility, or with a log stream. In addition, if a potential problem is found, an operator's console message is issued. Use the information in the check message to resolve possible configuration problems.

There are several steps required to set up Health Check to run checks. You must allocate the HZSPDATA data set to save the check data between restarts. You must set up the HZSPRINT utility. You can define log streams for the check output if you want to maintain an historical record of your check output. You will need to create security definitions, including Multilevel security definitions, if necessary. You can create an HZSPRMxx member from the HZSPRM00 parmlib member if you want to make changes to check values and parameters, or if you want to deactivate a check. You can then start the Health Checker proc. Step-by-step instructions for setting up Health Checker can be found in the IBM Health Checker for z/OS User's Guide.

Problem statement - Complex configuration

- z/OS Communication Server configuration and setup (for both TCP/IP and VTAM®) can be complex

- Incorrect or inefficient definitions can lead to resource shortages, performance degradation or outages

- V1R8 Communications Server provided a small set of Health Checker checks for TCP/IP and VTAM

- Need additional checks against IBM suggested 'best practices' for TCP/IP and VTAM
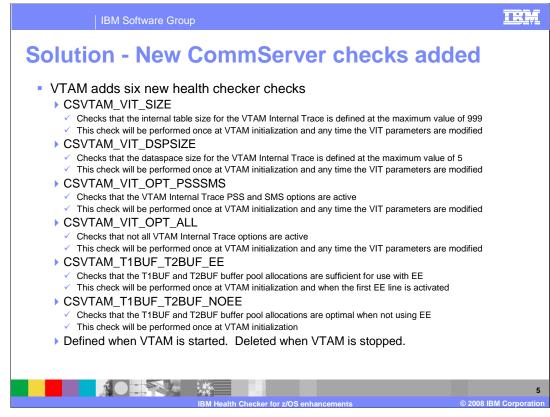
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z/OS Communications Server added some Health Checker checks in release V1R8. Some additional checks were added in the z/OS V1R9 Communications Server.

Solution - New Communication Server checks added

- TCP/IP adds one new health checker check
  - Check names for TCP/IP are suffixed by the TCP/IP stack name
  - CSTCP_SYSPLEXMON_RECOV_*tcpipstackname*
    - ✓ Checks that the GLOBALCONFIG SYSPLEXMONITOR RECOVERY parameter has been specified in the TCP/IP profile, if IPCONFIG DYNAMICXCF or IPCONFIG6 DYNAMICXCF has been specified
  - Defined when a TCP/IP stack is started. Deleted when a TCP/IP stack is stopped.

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New Communications Server Health Checker checks have been added in z/OS V1R9 Communications Server.

TCP/IP adds one new Health Checker check. As with the V1R8 TCP/IP checks, the check name will be suffixed by the TCP/IP stack name, so as to provide a unique check name for each started stack on a system. All TCP/IP checks are defined when the TCP/IP stack is started and deleted when the TCP/IP stack is stopped. The new z/OS V1R9 Communications Server TCP/IP check is CSTCP_SYSPLEXMON_RECOV_tcpipstackname. It will check if the SYSPLEXMONITOR RECOVERY parameter has been specified on the GLOBALCONFIG statement, if the DYNAMICXCF parameter has been specified on an IPCONFIG or IPCONFIG6 statement.

Solution - New CommServer checks added

- VTAM adds six new health checker checks
  - CSVTAM_VIT_SIZE
    - ✓ Checks that the internal table size for the VTAM Internal Trace is defined at the maximum value of 999
    - ✓ This check will be performed once at VTAM initialization and any time the VIT parameters are modified
  - CSVTAM_VIT_DSPSIZE
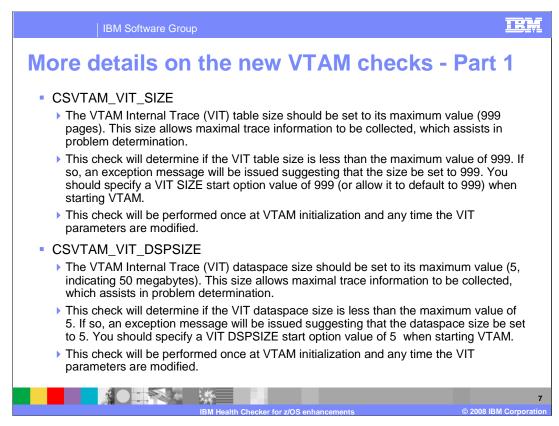   - ✓ Checks that the dataspace size for the VTAM Internal Trace is defined at the maximum value of 5
    - ✓ This check will be performed once at VTAM initialization and any time the VIT parameters are modified
  - CSVTAM_VIT_OPT_PSSSMS
    - ✓ Checks that the VTAM Internal Trace PSS and SMS options are active
    - ✓ This check will be performed once at VTAM initialization and any time the VIT parameters are modified
  - CSVTAM_VIT_OPT_ALL
    - ✓ Checks that not all VTAM Internal Trace options are active
    - ✓ This check will be performed once at VTAM initialization and any time the VIT parameters are modified
  - CSVTAM_T1BUF_T2BUF_EE
    - ✓ Checks that the T1BUF and T2BUF buffer pool allocations are sufficient for use with EE
    - ✓ This check will be performed once at VTAM initialization and when the first EE line is activated
  - CSVTAM_T1BUF_T2BUF_NOEE
    - ✓ Checks that the T1BUF and T2BUF buffer pool allocations are optimal when not using EE
    - ✓ This check will be performed once at VTAM initialization
  - Defined when VTAM is started. Deleted when VTAM is stopped.

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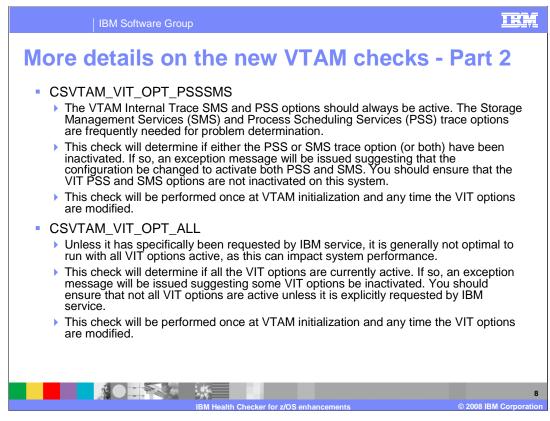
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VTAM adds six new Health Checker checks. As with the V1R8 VTAM check, these checks are defined when VTAM is started and deleted when VTAM is stopped. This slide lists the name of each new check and a brief description of what check is performed.

More details on the new TCP/IP Check

- CSTCP_SYSPLEXMON_RECOV_*tcpipstackname*
  - ▸ If IPCONFIG DYNAMICXCF or IPCONFIG6 DYNAMICXCF is specified in the TCP/IP profile, specify GLOBALCONFIG SYSPLEXMONITOR RECOVERY. Specifying the RECOVERY parameter will allow a TCP/IP stack in a sysplex to perform internal checks to determine if it needs to remove itself from the sysplex and allow a healthy backup stack to takeover the ownership of DVIPA interfaces.
  - ▸ This check will determine if DYNAMICXCF has been specified either on the IPCONFIG or IPCONFIG6 statement, and, if so, will check if RECOVERY has been specified on the GLOBALCONFIG SYSPLEXMONITOR statement. If RECOVERY was not specified, an exception message will be issued suggesting that the configuration be changed to specify RECOVERY. You should change your TCP/IP profile to specify GLOBALCONFIG SYSPLEXMONITOR RECOVERY.
  - ▸ This check will be performed once at stack initialization.
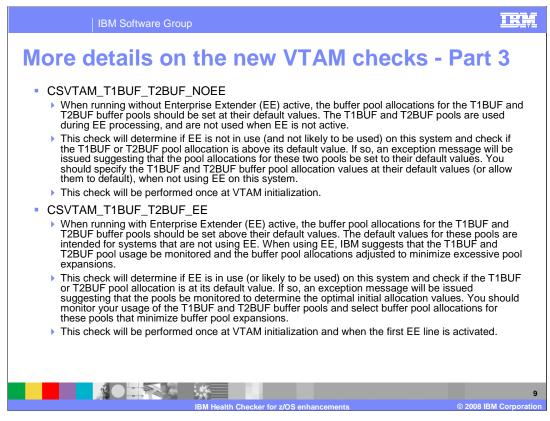
This slide contains additional details about the new TCP/IP check. It describes why RECOVERY should be specified when DYNAMICXCF is specified. It also indicates under what conditions the check will issue an exception message.

More details on the new VTAM checks - Part 1

- CSVTAM_VIT_SIZE
  - ▶ The VTAM Internal Trace (VIT) table size should be set to its maximum value (999 pages). This size allows maximal trace information to be collected, which assists in problem determination.
  - ▶ This check will determine if the VIT table size is less than the maximum value of 999. If so, an exception message will be issued suggesting that the size be set to 999. You should specify a VIT SIZE start option value of 999 (or allow it to default to 999) when starting VTAM.
  - ▶ This check will be performed once at VTAM initialization and any time the VIT parameters are modified.

- CSVTAM_VIT_DSPSIZE
  - ▶ The VTAM Internal Trace (VIT) dataspace size should be set to its maximum value (5, indicating 50 megabytes). This size allows maximal trace information to be collected, which assists in problem determination.
  - ▶ This check will determine if the VIT dataspace size is less than the maximum value of 5. If so, an exception message will be issued suggesting that the dataspace size be set to 5. You should specify a VIT DSPSIZE start option value of 5 when starting VTAM.
  - ▶ This check will be performed once at VTAM initialization and any time the VIT parameters are modified.
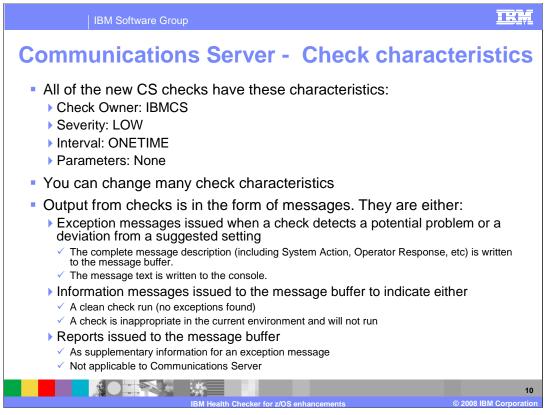
This panel provides more details about two of the new V1R9 VTAM checks, describing why each check is needed and under what conditions an exception message is generated.

More details on the new VTAM checks - Part 2

- CSVTAM_VIT_OPT_PSSSMS
  - ▸ The VTAM Internal Trace SMS and PSS options should always be active. The Storage Management Services (SMS) and Process Scheduling Services (PSS) trace options are frequently needed for problem determination.
  - ▸ This check will determine if either the PSS or SMS trace option (or both) have been inactivated. If so, an exception message will be issued suggesting that the configuration be changed to activate both PSS and SMS. You should ensure that the VIT PSS and SMS options are not inactivated on this system.
  - ▸ This check will be performed once at VTAM initialization and any time the VIT options are modified.
- CSVTAM_VIT_OPT_ALL
  - ▸ Unless it has specifically been requested by IBM service, it is generally not optimal to run with all VIT options active, as this can impact system performance.
  - ▸ This check will determine if all the VIT options are currently active. If so, an exception message will be issued suggesting some VIT options be inactivated. You should ensure that not all VIT options are active unless it is explicitly requested by IBM service.
  - ▸ This check will be performed once at VTAM initialization and any time the VIT options are modified.

This slide provides more details about the next 2 of the new V1R9 VTAM checks, describing why each check is needed and under what conditions an exception message is generated.

More details on the new VTAM checks - Part 3

- CSVTAM_T1BUF_T2BUF_NOEE
  - When running without Enterprise Extender (EE) active, the buffer pool allocations for the T1BUF and T2BUF buffer pools should be set at their default values. The T1BUF and T2BUF pools are used during EE processing, and are not used when EE is not active.
  - This check will determine if EE is not in use (and not likely to be used) on this system and check if the T1BUF or T2BUF pool allocation is above its default value. If so, an exception message will be issued suggesting that the pool allocations for these two pools be set to their default values. You should specify the T1BUF and T2BUF buffer pool allocation values at their default values (or allow them to default), when not using EE on this system.
  - This check will be performed once at VTAM initialization.
- CSVTAM_T1BUF_T2BUF_EE
  - When running with Enterprise Extender (EE) active, the buffer pool allocations for the T1BUF and T2BUF buffer pools should be set above their default values. The default values for these pools are intended for systems that are not using EE. When using EE, IBM suggests that the T1BUF and T2BUF pool usage be monitored and the buffer pool allocations adjusted to minimize excessive pool expansions.
  - This check will determine if EE is in use (or likely to be used) on this system and check if the T1BUF or T2BUF pool allocation is at its default value. If so, an exception message will be issued suggesting that the pools be monitored to determine the optimal initial allocation values. You should monitor your usage of the T1BUF and T2BUF buffer pools and select buffer pool allocations for these pools that minimize buffer pool expansions.
  - This check will be performed once at VTAM initialization and when the first EE line is activated.

This slide provides more details about the final 2 of the new V1R9 VTAM checks, describing why each check is needed and under what conditions an exception message is generated.

Communications Server - Check characteristics

- All of the new CS checks have these characteristics:
  - Check Owner: IBMCS
  - Severity: LOW
  - Interval: ONETIME
  - Parameters: None

- You can change many check characteristics

- Output from checks is in the form of messages. They are either:
  - Exception messages issued when a check detects a potential problem or a deviation from a suggested setting
    - ✓ The complete message description (including System Action, Operator Response, etc) is written to the message buffer.
    - ✓ The message text is written to the console.
  - Information messages issued to the message buffer to indicate either
    - ✓ A clean check run (no exceptions found)
    - ✓ A check is inappropriate in the current environment and will not run
  - Reports issued to the message buffer
    - ✓ As supplementary information for an exception message
    - ✓ Not applicable to Communications Server

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The check characteristics listed on this slide are common to all the new V1R9 Communications Server checks. Check Owner is the name of the z/OS component that owns the check. Check Owner plus Check Name uniquely identifies a check. For z/OS Communication Server checks, the Check Owner is IBMCS. Severity indicates the severity level of the check. Health Checker allows 3 levels of severity:

•LOW - When a low-severity check detects an exception, an informational WTO is issued.

•MED - When a medium-severity check detects an exception, an eventual action WTO is issued.

•HI - When a high-severity check detects an exception, a critical eventual action WTO is issued.

Interval indicates the frequency of the check. ONETIME indicates the check will run once and will not be rescheduled. Otherwise, a time interval in hours and minutes can be specified. A check may have one or more parameters specifying values that are used in the check. Note that there are no parameters associated with any of the new checks.

You can change many of the check characteristics (Severity, Interval, Parameter values) Dynamic, temporary changes may be made either using the SDSF CK command or through the MODIFY *hzsproc* command. Persistent changes may be made through entries in the HZSPRMxx parmlib member. See *IBM Health Checker for z/OS User's Guide* for details on modifying check characteristics.

Output from checks is in the form of messages. They can be either exception messages, information messages are reports. Note that no current Communications Server checks issue reports.

Complete output messages in the message buffer can be viewed using the HZSPRINT utility, the SDSF CK command or a log stream. You may need to set up authorization through your Security Access Facility (for example, RACF) to view the Health Checker message output. See *IBM Health Checker for z/OS User's Guide* for a complete description of how to display check output messages

Display health checker checks

- Display a summary of health checker checks

```
F HEALTHCK,DISPLAY,CHECKS
HZS0200I 10.25.57 CHECK SUMMARY
CHECK OWNER      CHECK NAME                     STATE STATUS
IBMCS            CSTCP_SYSPLEXMON_RECOV_TCPCS1  AE    EXCEPTION-LOW
IBMCS            CSTCP_TCPMAXRCVBUFRSIZE_TCPCS1 AE    SUCCESSFUL
IBMCS            CSTCP_SYSTCPIP_CTRACE_TCPCS1   AE    EXCEPTION-LOW
IBMCS            CSVTAM_T1BUF_T2BUF_NOEE        AE    SUCCESSFUL
IBMCS            CSVTAM_T1BUF_T2BUF_EE          AD    ENV N/A
IBMCS            CSVTAM_VIT_OPT_ALL             AE    EXCEPTION-LOW
IBMCS            CSVTAM_VIT_DSPSIZE             AE    EXCEPTION-LOW
IBMCS            CSVTAM_VIT_OPT_PSSSMS          AE    SUCCESSFUL
IBMCS            CSVTAM_VIT_SIZE                AE    EXCEPTION-LOW
IBMCS            CSVTAM_CSM_STG_LIMIT           AE    SUCCESSFUL
IBMUSS           USS_MAXSOCKETS_MAXFILEPROC     AD    UNEXP ERROR
IBMUSS           USS_AUTOMOUNT_DELAY            AD    ENV N/A
IBMUSS           USS_FILESYS_CONFIG             AE    EXCEPTION-MED
IBMIXGLOGR       IXGLOGR_ENTRYTHRESHOLD         AE    SUCCESSFUL
```

This slide shows how to get a summary display of health checker checks and their status. This chart displays only a partial list of checks. Highlighted in red are the new V1R9 Communications Server checks. The letters in the state column can be

A – Active

I – Inactive

E – Enabled

D - Disabled

The status field of the display shows the status of the check. That is, whether the check was successful or generated an exception message. If an exception message was generated, it indicates if the exception severity level was low, medium, or high. The status field can also indicate if a check was not run because it was not applicable in the current environment or due to an unexpected error during check processing.
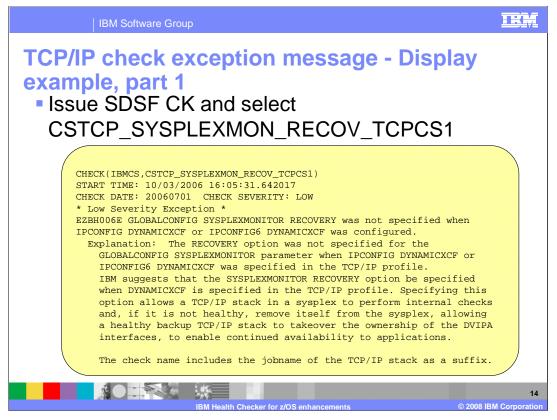
TCP/IP check success message - Display example

- Issue SDSF CK and select
  CSTCP_SYSPLEXMON_RECOV_TCPCS1

```
CHECK(IBMCS,CSTCP_SYSPLEXMON_RECOV_TCPCS1)
START TIME: 10/04/2006 10:30:59.975322
CHECK DATE: 20060701   CHECK SEVERITY: LOW

EZBH005I GLOBALCONFIG SYSPLEXMONITOR RECOVERY is specified when
IPCONFIG DYNAMICXCF or IPCONFIG6 DYNAMICXCF is configured.

END TIME: 10/04/2006 10:31:00.134580   STATUS: SUCCESSFUL
```

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This display shows the success message that is issued when the
CSTCP_SYSPLEXMON_RECOV_*tcpipstackname* check is run and finds that the
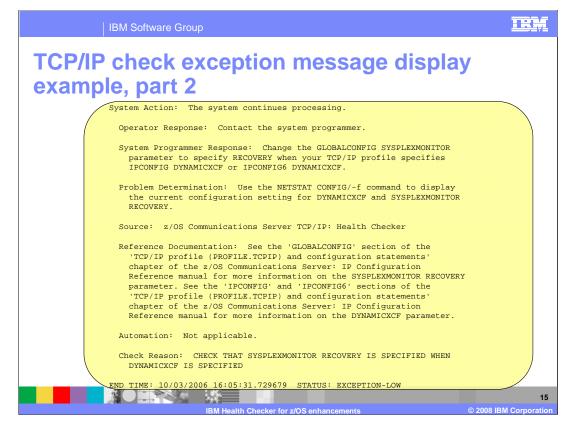configuration agrees with IBM's suggested 'best practice'.

TCP/IP check exception console message display example

- TCP/IP Exception message console output for CSTCP_SYSPLEXMON_RECOV_TCPCS1

```
HZS0001I CHECK(IBMCS,CSTCP_SYSPLEXMON_RECOV_TCPCS1):
EZBH006E GLOBALCONFIG SYSPLEXMONITOR RECOVERY was not specified when
IPCONFIG DYNAMICXCF or IPCONFIG6 DYNAMICXCF was configured.
```

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This display shows the console message that is issued for the CSTCP_SYSPLEXMON_RECOV_*tcpipstackname* check if a problem is found with the configuration.
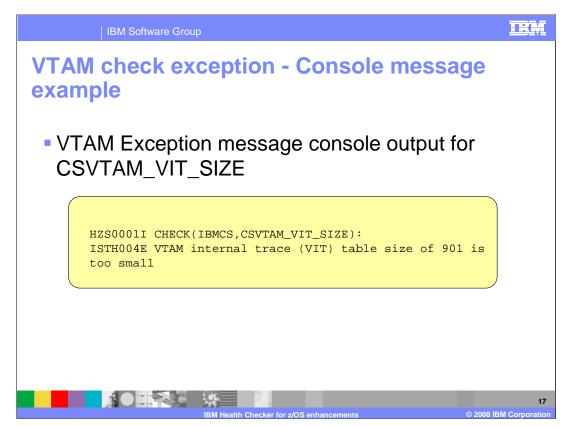
TCP/IP check exception message - Display example, part 1

- Issue SDSF CK and select CSTCP_SYSPLEXMON_RECOV_TCPCS1

```
CHECK(IBMCS,CSTCP_SYSPLEXMON_RECOV_TCPCS1)
START TIME: 10/03/2006 16:05:31.642017
CHECK DATE: 20060701   CHECK SEVERITY: LOW
* Low Severity Exception *
EZBH006E GLOBALCONFIG SYSPLEXMONITOR RECOVERY was not specified when
IPCONFIG DYNAMICXCF or IPCONFIG6 DYNAMICXCF was configured.
  Explanation:  The RECOVERY option was not specified for the
    GLOBALCONFIG SYSPLEXMONITOR parameter when IPCONFIG DYNAMICXCF or
    IPCONFIG6 DYNAMICXCF was specified in the TCP/IP profile.
    IBM suggests that the SYSPLEXMONITOR RECOVERY option be specified
    when DYNAMICXCF is specified in the TCP/IP profile. Specifying this
    option allows a TCP/IP stack in a sysplex to perform internal checks
    and, if it is not healthy, remove itself from the sysplex, allowing
    a healthy backup TCP/IP stack to takeover the ownership of the DVIPA
    interfaces, to enable continued availability to applications.

    The check name includes the jobname of the TCP/IP stack as a suffix.
```

This display shows the first part of the full exception message that is written to the message buffer when the CSTCP_SYSPLEXMON_RECOV_tcpipstackname check detects a problem. This slide and the next slide show that the exception message contains the full message text just as would be found in the z/OS V1R9 Communications Server: IP Messages manual.
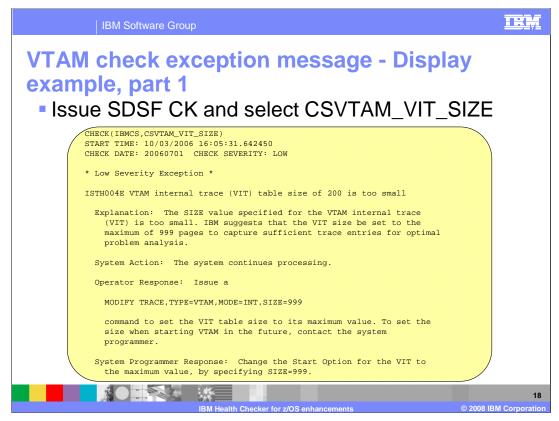
TCP/IP check exception message display example, part 2

```
System Action:  The system continues processing.

  Operator Response:  Contact the system programmer.

  System Programmer Response:  Change the GLOBALCONFIG SYSPLEXMONITOR
    parameter to specify RECOVERY when your TCP/IP profile specifies
    IPCONFIG DYNAMICXCF or IPCONFIG6 DYNAMICXCF.

  Problem Determination:  Use the NETSTAT CONFIG/-f command to display
    the current configuration setting for DYNAMICXCF and SYSPLEXMONITOR
    RECOVERY.

  Source:  z/OS Communications Server TCP/IP: Health Checker

  Reference Documentation:  See the 'GLOBALCONFIG' section of the
    'TCP/IP profile (PROFILE.TCPIP) and configuration statements'
    chapter of the z/OS Communications Server: IP Configuration
    Reference manual for more information on the SYSPLEXMONITOR RECOVERY
    parameter. See the 'IPCONFIG' and 'IPCONFIG6' sections of the
    'TCP/IP profile (PROFILE.TCPIP) and configuration statements'
    chapter of the z/OS Communications Server: IP Configuration
    Reference manual for more information on the DYNAMICXCF parameter.

  Automation:  Not applicable.

  Check Reason:  CHECK THAT SYSPLEXMONITOR RECOVERY IS SPECIFIED WHEN
    DYNAMICXCF IS SPECIFIED

END TIME: 10/03/2006 16:05:31.729679  STATUS: EXCEPTION-LOW
```
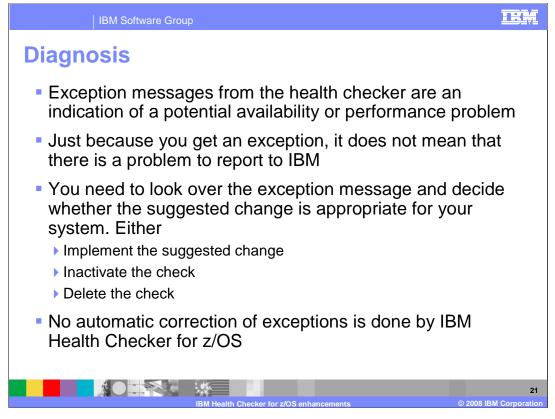
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This slide is a continuation of the display of the exception message for CSTCP_SYSPLEXMON_RECOV_tcpipstackname check.

VTAM check success message - Display example

- Issue SDSF CK and select CSVTAM_VIT_SIZE

```
CHECK(IBMCS,CSVTAM_VIT_SIZE)
START TIME: 10/04/2006 10:06:37.317039
CHECK DATE: 20060701  CHECK SEVERITY: LOW

ISTH003I VTAM internal trace table size is at the maximum
value, which provides optimal trace information for
problem determination

END TIME: 10/04/2006 10:06:37.318018  STATUS: SUCCESSFUL
```

This display shows the success message that is issued when the CSVTAM_VIT_SIZE check is run and finds that the configuration agrees with IBM's suggested 'best practice'.

VTAM check exception - Console message example

- VTAM Exception message console output for CSVTAM_VIT_SIZE

```
HZS0001I CHECK(IBMCS,CSVTAM_VIT_SIZE):
ISTH004E VTAM internal trace (VIT) table size of 901 is
too small
```

This display shows the console message that is issued for the CSVTAM_VIT_SIZE check if a problem is found with the configuration.

VTAM check exception message - Display example, part 1

- Issue SDSF CK and select CSVTAM_VIT_SIZE

```
CHECK(IBMCS,CSVTAM_VIT_SIZE)
START TIME: 10/03/2006 16:05:31.642450
CHECK DATE: 20060701  CHECK SEVERITY: LOW

* Low Severity Exception *

ISTH004E VTAM internal trace (VIT) table size of 200 is too small

  Explanation:  The SIZE value specified for the VTAM internal trace
    (VIT) is too small. IBM suggests that the VIT size be set to the
    maximum of 999 pages to capture sufficient trace entries for optimal
    problem analysis.

  System Action:  The system continues processing.

  Operator Response:  Issue a

    MODIFY TRACE,TYPE=VTAM,MODE=INT,SIZE=999

    command to set the VIT table size to its maximum value. To set the
    size when starting VTAM in the future, contact the system
    programmer.

  System Programmer Response:  Change the Start Option for the VIT to
    the maximum value, by specifying SIZE=999.
```

This display shows the first part of the full exception message that is written to the message buffer when the CSVTAM_VIT_SIZE check detects a problem. This slide and the next slide show that the exception message contains the full message text just as would be found in the z/OS V1R9 Communications Server: SNA Messages manual.

VTAM check exception - Message display example, part 2

```
   Problem Determination:  To display the current setting for the VIT
     table size, issue

     D NET,TRACES,TYPE=VTAM


   Source:  z/OS Communications Server TCP/IP: Health Checker

   Reference Documentation:  See the 'MODIFY TRACE' section of the 'VTAM
     operator commands' chapter of the z/OS Communications Server: SNA
     Operation manual for information on the MODIFY TRACE command. See
     the 'TRACE for MODULE, STATE (with OPTION), or VTAM internal trace'
     section of the 'Start Options' chapter of the z/OS Communications
     Server: SNA Resource Definition Reference for further information on
     setting VIT start option values.

   Automation:  Not applicable

   Check Reason:  CHECK VIT SIZE IS AT MAXIMUM

 END TIME: 10/03/2006 16:05:31.712275  STATUS: EXCEPTION-LOW
```

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This slide is a continuation of the display of the exception message for CSVTAM_VIT_SIZE check.

VTAM check environment not applicable message

- Issue SDSF CK and select CSVTAM_T1BUF_T2BUF_EE

```
CHECK(IBMCS,CSVTAM_T1BUF_T2BUF_EE)
START TIME: 10/03/2006 16:05:31.641429
CHECK DATE: 20060701   CHECK SEVERITY: LOW

ISTH018I This check is not applicable in the current
VTAM environment. Enterprise Extender (EE) lines have
not been activated on this system and no VTAM Start
Options associated with EE have been specified.

HZS1003E CHECK(IBMCS,CSVTAM_T1BUF_T2BUF_EE):
THE CHECK IS NOT APPLICABLE IN THE CURRENT SYSTEM
ENVIRONMENT.

END TIME: 10/03/2006 16:05:31.642775  STATUS: ENV N/A
```

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This display shows the message that is written to the message buffer when it is determined that the CSVTAM_T1BUF_T2BUF_EE check is not applicable in the current VTAM environment. If no EE lines are active, and the IPADDR and TCPNAME start options have not been specified when VTAM was started, it is assumed that EE will not be used on this system.

Diagnosis

- Exception messages from the health checker are an indication of a potential availability or performance problem

- Just because you get an exception, it does not mean that there is a problem to report to IBM

- You need to look over the exception message and decide whether the suggested change is appropriate for your system. Either
  - ▸ Implement the suggested change
  - ▸ Inactivate the check
  - ▸ Delete the check

- No automatic correction of exceptions is done by IBM Health Checker for z/OS

An exception message merely indicates the potential for an availability or performance problem resulting from the configuration parameters being checked. You shouldn't call IBM service when you receive an exception message. Instead, you should investigate the configuration problem reported in the message and determine whether the problem is applicable to this system. If so, you should implement the change suggested in the check exception message. If you implement the suggestion, an exception message should not be issued when this check is run again. Issue F *hzsproc*,RUN,CHECK=(*checkowner*,*checkname*) to verify that no exception message is issued.

If you believe the check is not applicable, you can inactivate or delete the check. To inactivate the check issue F *hzsproc*,DEACTIVATE,CHECK(*checkowner*,*checkname*) or specify UPDATE INACTIVATE CHECK(*checkowner*,*checkname*) in the HZSPRMxx parmlib member. You can re-activate the check by issuing F *hzsproc*,ACTIVATE,CHECK(*checkowner*,*checkname*) or removing the UPDATE INACTIVATE from the HZSPRMxx parmlib member. To delete the check specify DELETE CHECK(*checkowner*,*checkname*) in the HZSPRMxx parmlib member. You can un-delete the check by removing the DELETE from the HZSPRMxx parmlib member.

Things to think about

- When you start the health checker for the first time on a system that has been running fine for a long time, you might see several IBM Health Checker for z/OS exception messages.

- Remember, these exception messages are just suggestions meant to help you improve the performance and availability of your system. The checks reflect generally accepted recommendations.

- It is worthwhile to evaluate each exception message and decide what is appropriate for your system.

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Just because several exception messages are produced when you start the health checker, it does not mean that your system is broken. The exception messages are merely indications that some configuration values might not meet IBM's 'best practices' criteria. You should evaluate each exception message to determine if it is applicable to your system, and take the appropriate action.

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