



Release Notes for Cisco Media Gateway Control Node Manager 2.4

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Introduction

The Cisco Media Gateway Control (MGC) Node Manager (Cisco MGC Node Manager) is an element management system (EMS) for the Cisco Media Gateway Control Node, a call control node based on the Cisco PGW 2200 Softswitch. Cisco MGC Node Manager provides basic management of the Cisco Media Gateway Control Node devices including fault, configuration, performance and security.

Cisco MGC Node Manager 2.4(1) is built on version 3.2 of the Cisco Element Management Framework (CEMF) software package. This release adds support for Cisco MGC host call control software Release 9.4(1) and provides backward-compatibility across older versions of the software, including the 7.4(12) and 9.x releases. It also integrates the Provisioning Tool formerly known as Voice Services Provisioning Tool (VSPT), now known as Cisco MGC Node Manager Provisioning Tool or MNM-PT.



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These release notes describe the features and caveats for Cisco MGC Node Manager. Please read this entire document prior to using Cisco MGC Node Manager as it contains pertinent information about installing, configuring, and using the software. This document provides up-to-date information about the current release of the Cisco MGC Node Manager from Cisco Systems, Inc.

For more information on the Cisco MGC Node Manager software, please visit Cisco's web site at:

<http://www.cisco.com> > Products and Services > Network Management > Cisco Media Gateway Control Node Manager.



Note

The Cisco PGW 2200 PSTN Gateway has been renamed as the Cisco PGW 2200 Softswitch. Older names of this product are the Cisco VSC 3000 and Cisco SC 2200. Some documents may still use the older names.

Related Documentation

For installation instructions, see the Installation Guide available at

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/emins/index.htm>

The Cisco MGC Node Manager User's Guide Version 2.4(1) is available at

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/cmm241/index.htm>

The Cisco MGC Node Manager Provisioning Tool User's Guide Version 2.4(1) contains information on getting started with MNM-PT and is available at

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/vspt241/index.htm>

Software Release History

Release 2.4(1)

Release 2.4(1) Enhancements

Release 2.4(1) supports Cisco MGC Release 9.4(1) software.

Cisco MNM 9.4(1) adds support for managing the features new in Cisco MGC Release 9.4(1), as shown in [Table 1](#). Enhancement identification numbers are listed where applicable.

Table 1 *New Features for Software Release 2.4(1)*

Enhancement Identifier	Description
	Bundles the Provisioning Tool (formerly known as the Voice Services Provisioning Tool or VSPT) for tighter integration.
	Adds support for a cluster of Cisco MGC nodes operating in concert with a cluster of two or more Internet Transfer Points (ITPs). In this configuration, one or more ITPs, rather than an SLT, serve as the signaling gateway to the SS7 network. The <i>farm</i> of Cisco PGW hosts appears as a single point code to the Public Switched Telephone Network (PSTN). Supports farm deployment through wizard or seedfile, and related functions.
	Change in switch deployment: The LAN switch is no longer deployed under the node object but instead under the MGC-Node-View.
	Support for new and modified MML components.
CSCdx89335	Secure communications (SSH) can be installed on the Cisco PGW, BAMS, and HSI servers, and Cisco MGC Node Manager supports secure communication with these components with an optional CEMF SSH add-in. If you are implementing SSH on the Cisco PGW, BAMS, or HSI servers, you should implement SSH on the Cisco MGC Node Manager by installing the CEMF SSH add-in. This is described in the Installation Guide: http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/emins/index.htm The seed file value for securityPolicy can be either ssh or none.
	Adds support for SGP and Association Performance measurements.

Release 2.4(1) Open Caveats

[Table 2](#) lists open caveats for this release.

Table 2 *Open Caveats for Software Release 2.4(1)*

Identifier	Description
CSCeb19879	Copying and pasting in XECfgParm.dat, then commenting out the pasted line, can cause MGC Host Properties dialog to display inaccurate information. Workaround: Delete the commented lines that are causing the problem.

Release 2.4(1) Resolved Caveats

The following caveats were resolved in this release:

Table 3 *Caveats Resolved in Software Release 2.4(1)*

Enhancement Identifier	Description
CSCdx53969	Cisco MGC Node Manager now supports VNC.
CSCea18698	Problem interpreting IPFAS measurement from PGW.

System Requirements

The following is the minimum hardware and software you need to install and run Cisco MNM:

- Sun Fire 280R (UltraSPARC III) supporting two hard drives in a single rack-mount package; other Sun platforms in the UltraSPARC II and III families are also supported (two CPUs at 440 MHz or faster)
- Sun Solaris 8 operating system
 - April 2001 release recommended
 - Open Windows with the Common Desktop Environment (CDE)
- 2.0 GB of RAM (or greater)
- 9 GB SCSI drives properly configured. The database drives should be configured as rawdevices and connected to a separate SCSI controller for maximum performance.
- The tmpfs file system must be mounted to /tmp for maximum performance.

Detailed system requirements are documented in Chapter 1 of the *Cisco MGC Node Manager Installation Guide* at <http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/emins/index.htm>.

Review this chapter prior to installing or configuring the software.



Note

Installing drives greater than 9 GB does *not* result in performance gains. The main bottleneck of the CEMF application is hard disk input/output (i/o) speed, not capacity. Maximum performance is achieved using many drives of lower capacity instead of a few, larger capacity drives.

Supported Configurations

These configurations are supported:

- Cisco MGC Node Manager and Cisco MNM PT installed together on a network management server. (Recommended)
- Cisco MGC Node Manager installed on a network management server and Cisco MNM-PT installed on a Cisco PGW host machine.
- Cisco MGC Node Manager installed on a network management server and Cisco MNM-PT installed on a separate server.



Note

Other element managers may be installed on the network management server.



Caution

Cisco MGC Node Manager should not be installed on a Cisco PGW 2200 host machine.

Supported Network Elements

The following network elements have been tested and verified to work with this release 2.4(1) of the Cisco MGC Node Manager.

- Cisco PGW 2200:
7.4(12), 9.2, 9.3(1), 9.3(2), and 9.4(1)
- Billing and Measurement Server (BAMS):
2.68, 3.08, 3.10, 3.12, and 3.13
- H.323 Signaling Interface (HSI)
2.21 (backward compatible with 2.20), 4.1
- Catalyst 5500 or 6500:
5.x or higher
- Catalyst 2900XL:
Cisco IOS Release 12.x
- SLT:
Cisco 2611 or 2651 router running Cisco IOS Release 12.1(x), 12.2(x)
Cisco 2611XM router running Cisco IOS Release 12.2(11)T2
- Integrated SLT
Cisco AS5350 or AS5400 access server running Cisco IOS Release 12.2(15)T
- Cisco EMF: Cisco MGC Node Manager 2.4(1) has been tested and verified with CEMF 3.2 patch 6 and may be used with patch 6 or higher.

Installation Procedure Checklist

Before installing the software, read Chapters 1 and 2 of the *Installation Guide*. If you are setting up a client/server architecture, then the CEMF and Cisco MGC Node Manager software must be installed on both the client and server workstations. The Cisco MGC Node Manager installation software determines whether the client or manager software should be installed.

- Verify that the minimum hardware requirements pertaining to your site have been met
- Ensure that the computer is in DNS
 - Ensure that the computer is using DNS
The computer must have a valid entry in DNS.
 - If the computer is not using DNS, disable Name Resolution completely (that is, there should be no `/etc/resolv.conf` file).
- Verify that the CEMF software has been installed and is running (the CEMF software must be running for the Cisco MGC Node Manager software to be installed.)



Note

Refer to the “Installing Cisco MGC Node Manager” section in the *Installation Guide* for detailed instructions on how to mount the CD-ROM and all aspects of installation.

- Step 1** Become the root user.
- Step 2** Place Cisco MGC Node Manager CD in the CD-ROM drive.
- Step 3** Change to the `/cdrom/cdrom0` directory
- Step 4** Execute the command: `./cmninstall`.

- Step 5 Follow the on-screen prompts.
- Step 6 Eject the CD-ROM when the installation is complete.

Upgrade Procedure Checklist

The Cisco MGC Node Manager upgrade process enables you to easily upgrade from earlier releases.]

-
- Step 1 Become the root user.
 - Step 2 Place Cisco MGC Node Manager CD in the CD-ROM drive.
 - Step 3 Change to the /cdrom/cdrom0 directory.
 - Step 4 Execute the command **./installCSCOcmnm -upgrade**.
 - Step 5 Follow the on-screen prompts.
 - Step 6 Eject the CD-ROM when the installation is complete.

Patch Procedure

The Cisco MGC Node Manager patch process is cumulative. Downloading and installing the latest patch installs all previous patches. The patch process automatically determines which portions of the Cisco MGC Node Manager need to be patched. In order for you to install a patch, the base Cisco MGC Node Manager software must be installed. Use the following steps to install the desired patch.

-
- Step 1 Verify that the base Cisco MGC Node Manager software is installed.
 - Step 2 Become the root user.
 - Step 3 Create a temporary installation directory /opt/cmnm_tmp_install.
 - Step 4 Download the patched software:
 - a. Go to www.cisco.com.
 - b. Log in.
 - c. Navigate to *Technical Support > Software Center > Products and Downloads > Voice Software*. On this page find and click on *Cisco Media Gateway Control Node Manager*. You go to the patch download page.
 - d. Download the desired patch to the temporary installation directory.
 - Step 5 Extract the patched software. For example, you can use:


```
zcat CSCOcmmnPatch_0x.tar.Z | tar xvf -
```
 - Step 6 Execute the command: **./patchCSCOcmnm**
 - Step 7 Follow the on-screen prompts.
-

Known Issues and Operational Recommendations

This section contains information about known issues and the corresponding workarounds.



Note

For more information about Cisco IOS issues and workarounds, see the Cisco IOS release notes for your platform.

Cisco MGC Node Manager Checks for Available Disk Space For Installation

During installation, Cisco MGC Node Manager detects how much disk space is available for installation. If the system does not have enough available disk space, you are prompted whether you want to continue the installation routine. If you enter 'N' to stop the Cisco MGC Node Manager installation, the installation continues.

The workaround is to ensure that enough free disk space is available before Cisco MGC Node Manager is installed. The amount of disk space required is detailed in the Cisco MGC Node Manager installation guide.

Cisco MGC Node Manager Cannot Discover an Interface or IP Address for BAMS

Sometimes Cisco MGC Node Manager reports that it cannot discover an interface or IP address for BAMS. This might be caused by the mib2agt getting into a *strange* state. You can restart the mib2agt by stopping the current process. The new process mib2agt is restarted automatically.

```
ps -ef | grep mib2agt
kill -9 <PID>
```

Hints and Tips

Initial Cisco MGC Node Manager Configuration

Cisco MGC Node Manager is initially configured with one user:

```
id: admin
password: admin
```


Installing CEMF/Cisco MGC Node Manager on a Server

If you have installed CEMF/Cisco MGC Node Manager on a server and need to change the IP address/hostname, you must make the changes shown in the following procedure:



Note

The following example uses the hostname CMNM and the IP address 10.1.1.1.

-
- Step 1** `#cd <CEMF Directory>/bin`
- Step 2** `#./cemf stop`
- Step 3** Edit `/var/adm/Atlantech/system/info` to reflect the following hostname and ip address:
- ```
MGRHOSTNAME=rambler
MGRIPADDRESS=10.1.1.1
COREHOSTNAME=rambler
```
- Step 4** Edit `<CEMF Directory>/config/env/avCore.sh` to reflect the hostname in the lines below, and save the file.
- ```
MgrSystemManager=rambler1270; export MgrSystemManager
PortAllocator=rambler1270; export PortAllocator
transRouter=rambler1271; export transRouter;
```
- Step 5** Edit `/var/sadm/pkg/CSCOcemfm/pkginfo` to reflect the following values:
- ```
MGRIPADDRESS=10.1.1.1
MGRHOSTNAME=10.1.1.1
COREHOSTNAME=10.1.1.1
LOCALHOSTNAME=10.1.1.1
```
- Step 6** You will also need to make these same changes for each Element Manager. To do so, edit the following files:
- ```
/var/sadm/pkg/hostEM/pkginfo
/var/sadm/pkg/mgcEM/pkginfo
/var/sadm/pkg/mgxEM/pkginfo
```
- Step 7** Rename `<CEMF Directory>/ODI/OS5.1/ostore/<hostname>_server_parameter` to reflect the new hostname.
-  **Note** You must obtain a new CEMF license. For information on obtaining a new CEMF license, refer to “CEMF Licensing” in the “Troubleshooting” section.
-
- Step 8** `<CEMF Direcorey>/bin/cemf start`
-

Configuring the CEMF Software for Maximum Performance

The following are guidelines for installing CEMF:

- Use the primary drive for the Solaris operating system and the ObjectStore transaction log.
- The second drive should contain the CEMF software (that is, `/opt/cemf`).
- Configure the ObjectStore database for Raw FileSystems. The remaining hard drives should contain the RAW FileSystem partitions for the CEMF database (preferably on a separate SCSI controller).

Mount the `tmpfs` file system to `/tmp` so the ObjectStore cache files can be kept in memory. ObjectStore is the database program included with CEMF. Keeping the cache files in memory provides for an enormous performance boost for CEMF. Here is how the `tmpfs` line should read in the `/etc/vfstab` file (the blank areas between the keywords are spaces):

```
swap - /tmp tmpfs - yes -
```


Troubleshooting

Viewing Core Files Generated by CEMF and Cisco MGC Node Manager

Use the `/opt/cemf/bin/listCores` command to view all core files generated by CEMF and Cisco MGC Node Manager.

CEMF Licensing

If you are having problems with CEMF licensing, you might need to stop and restart the license manager daemon. To do so, execute the following commands:

```
#> /etc/rc2.d/S98alvm stop
#> /etc/rc2.d/S98alvm start
```



Note

The CEMF licenses are fixed for a particular machine. You cannot copy the license file from one machine to another. If you want to install the CEMF software on another machine, you must contact Cisco TAC and ask for a new license. You will need the hostname and hostid of the new machine.

Viewing the Most Recently Changed Log Files

Cisco MGC Node Manager log files are stored in `<CEMF Directory>/logs`. You can view the most recently changed log file with `ls -lt` command.

Interesting Cisco MGC Node Manager Log Files

Some interesting Cisco MGC Node Manager log files are:

- `hostController.log` [MGC Host]
- `mgcController.log` [MGC Node]
- `trapLog.log` Incoming traps are logged here, to separate them from CEMF log messages collected in `mgcTrapProcessor.log`.

Error Messages That Are Safe to Ignore

Most of the entries in the Cisco MGC Node Manager log files are created by the CEMF platform and are of limited value. The following error messages are safe to ignore:

- SNMP and MIB parsing errors (which display when an EM controller starts):
 - `SNMP : ERROR mib.cc:1283 Mib Object is already on the tree for .`
 - `SNMP : ERROR mibDependencyMgr.cc:191 mibDependencyMgr.cc:196 Mib . not defined`
 - `SNMP : ERROR mibParser.y:359 EXPORTS are currently ignored (;, line 8)`
 - `SNMP : WARN mibParser.y:1154 Name and number form OIDs are not properly implemented ()`.

- Database warning (which display when an EM controller is first installed):
 general : WARN Creating Database /opt/AV3/db/mgcController.db
- General errors (which display when the EM controller starts up):
 - general : ERROR Unable to get event channel ID for channel ' '
 - general : ERROR EventChannelManager : Failed to find location for event channel
 - general : WARN OGManager::OGManager - Unable to get deleteEventChannel from .ini file
 - general : ERROR OGManager::processGroupClass - invalid class id
 - general : ERROR EventChannelManager : Failed to find location for event channel ERROR OGManager::processGroupClass - invalid class id
 - general : ERROR OGChangeEventHandler::process - could not find drep!
 - general : ERROR IdAllocatorOS : Deprecated constructor called
 - Task : WARN PerfPollTask::createGroupsResult : group . already exists.
 - mgcController : WARN Controller::initialiseController Controller is configured NOT to auto populate tech tree on autodiscover
- Other misc errors:
 - general : WARN CommsBuffer::serialize - resizing buffer size
 - general : ERROR PersistentAttributeStore::PersistentAttributeStore() nameInit = 'xxx. is longer than 16 characters. All Objectstore segment comments will be truncated to use the first 16 characters.

Resetting the User Password

If you forget your password, you can reset the CEMF user IDs and passwords. The following command removes all passwords, and resets the admin user ID's password to *admin*.

```
<CEMF Directory>/bin/cemf shell
<CEMF Directory>/bin/partitioningTool -r
```

Backing Up and Restoring the CEMF/Cisco MGC Node Manager Databases

The following command backs-up the CEMF/Cisco MGC Node Manager databases. By default the backup files are placed in /opt/AVBackup.

```
/opt/CSC0cemf/bin/cemf stop
/opt/CSC0cemf/bin/cemf backup
/opt/CSC0cemf/bin/cemf start
```

The following command will restore a CEMF/Cisco MGC Node Manager database.

```
/opt/CSC0cemf/bin/cemf stop
/opt/CSC0cemf/bin/cemf restore -t mm-dd-yyyy
/opt/CSC0cemf/bin/cemf start
```

For more information on backing up and restoring CEMF/Cisco MGC Node Manager Databases refer to the “Cisco EMF Database Backup and Restore Procedures” section of the *Installing, Licensing, and Configuring Cisco EMF Manual*.

Forcing an Uninstall of an Element Manager

The CEMF daemons must be running for the Element Managers (EMs) to uninstall. There are two ways to force an uninstall of an EM; both cause loss of all CEMF/Cisco MGC Node Manager data. Before running these commands, it is recommended that you back up your databases.

The `uninstallCSCOcmnm` script can be invoked with an undocumented option to force the removal of all or one EM. From a command line, as root, type the command:

```
/opt/CSCOcemf/uninstall/uninstallCSCOcmnm -force [-em <EM>]
```

You can specify only one EM to remove or all EMs by omitting that parameter. The list of EMs includes `hostEM`, `mgcEM`, and `dmgxEM`.

Example:

```
/opt/CSCOcemf/uninstall/uninstallCSCOcmnm -force -em mgxEM -em mgcEM
```

After you run this command, the CEMF databases are corrupted. To correct this problem, reset the CEMF databases by running the following command. You must do this before using CEMF again, even using CEMF to reinstall Cisco MGC Node Manager.

```
/opt/CSCOcemf/bin/cecf stop
/opt/CSCOcemf/bin/cecf reset
/opt/CSCOcemf/bin/cecf start
```

After you have successfully reset the database and restarted CEMF, you must reinstall Cisco MGC Node Manager. If you want to restore a CEMF/Cisco MGC Node Manager database after you have reinstalled Cisco MGC Node Manager, refer to “Backing up and restoring the CEMF/CMNM Databases” in the preceding section.

If the above method doesn't remove the EMs, then you can try another method. When the EMs are installed, Solaris package information is placed in subdirectories of `/var/sadm/pkg`. The subdirectory is the name of the package, as specified above (that is, `hostEMm`, `mgcEMm`, and so on.). As the root user, complete the following steps for each EM that you want to remove.

```
/opt/CSCOcemf/bin/cecf stop
touch /var/sadm/pkg/<EM>/install/.avload
pkgrm <EM>
/opt/CSCOcemf/bin/cecf reset
/opt/CSCOcemf/bin/cecf start
```

Example:

```
/opt/CSCOcemf/bin/cecf stop
touch /var/sadm/pkg/mgcEMm/install/.avload
pkgrm mgcEMm
/opt/CSCOcemf/bin/cecf reset
/opt/CSCOcemf/bin/cecf start
```

To restore a CEMF/Cisco MGC Node Manager database after you have reinstalled Cisco MGC Node Manager, refer to the preceding “Backing Up and Restoring the CEMF/CMNM Databases”.

Managing Network Devices Over a Slow Link

If you are managing network devices over a slow link (T1 or slower), you might need to alter SNMP parameters used by Cisco MGC Node Manager for SNMP Get Requests. You can change these parameters for any existing objects by accessing the States dialog. You can also change these parameters in the Advanced tab of the Seed File Deployment dialog.

The default number of SNMP retries is 2. You might need to increase this value when the Cisco MGC Node Manager workstation is connected to network devices over a slow link.

The default SNMP timeout value is 5000 milliseconds (5 seconds). You may need to increase this value when the Cisco MGC Node Manager workstation is connected to network devices over a slow link.

Maximizing Logfile Output

By default Cisco MGC Node Manager logs only warning and error messages. If you want to turn on debug messages in all log files, complete the following steps, as the root user:

-
- Step 1 **cd <CEMF Direcory>/bin**
 - Step 2 **./cemf stop**
 - Step 3 **cd <CEMF Direcory>/config/init**
 - Step 4 Edit loggercommon.include and add or change the following line:
loggingLevelMask = 12
 - Step 5 **cd <CEMF Direcory>/bin**
 - Step 6 **./cemf start**
 - Step 7 To set the logging level back to warning, add or change the following line:
loggingLevelMask = 10
-

Obtaining Documentation

The following sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following URL:

<http://www.cisco.com>

Translated documentation is available at the following URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco product documentation from the Networking Products MarketPlace:
http://www.cisco.com/cgi-bin/order/order_root.pl
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<http://www.cisco.com/go/subscription>
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Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available through the Cisco TAC: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Inquiries to Cisco TAC are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Which Cisco TAC resource you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

The Cisco TAC Web Site allows you to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to the following URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco services contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to the following URL to register:

<http://www.cisco.com/register/>

If you cannot resolve your technical issues by using the Cisco TAC Web Site, and you are a Cisco.com registered user, you can open a case online by using the TAC Case Open tool at the following URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, it is recommended that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses issues that are classified as priority level 1 or priority level 2; these classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer will automatically open a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to the following URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled; for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). In addition, please have available your service agreement number and your product serial number.

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