

# Morpheus 5.6

## Release Note



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## 1 Introduction

Morpheus is a powerful, highly sophisticated, stable, fully scalable, feature-rich system offering facilities which satisfy the most demanding transmission requirements in a broadcast environment. Listed below are a few of the core functions that Morpheus is able to achieve:

- Translates the schedule into timed remote control commands which are sent to broadcast equipment.
- Confirms to the user that the equipment is operating correctly.
- Provides protection against equipment faults or other failure.
- Informs the user if content is missing.
- Communicates with Morpheus media management to initiate the movement of content.
- Allows operators to override the schedule if necessary.

This document describes the changes since Morpheus V5.5.1 which was the last released version. This version is a full release of Morpheus 5.6, derived from build version 5.6.18.21363.

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This document does not form part of the product's technical or functional specification and does not form part of any contractual agreement.

If you have any questions please contact SAM Support

Any problems with installation or operation of this software should be reported to the SAM Support Department where a representative will assist with the issue.

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Any questions please mail support@s-a-m.com and we will do our best to help.

## 2 Software installation notes

- This version of Morpheus requires the following:
- **Automated Database AsRun Reporter, previous configuration files must be re-formed into valid XML before this version will import them. That may be as simple as removing all underscores. For example**  
<\_ConfigsForXml><\_channelName><\_outputFileExtension><\_RegionAsRunPathForXml> **now becomes** <ConfigsForXml><channelName><outputFileExtension><RegionAsRunPathForXml>. **NOTE, this must be done before an upgrade is attempted, otherwise you will lose all configurations and have to recreate them manually.**
- **Due to MOR-5922, this version of Morpheus must be deployed with PBAK V5.0 or above. RTB's can be any version (see compatibility matrix). The Deploy tool also has additional dependencies; you now need to configure "Common Infrastructure", used by both Morpheus and Ingest. At this version, you should select Common Infrastructure at V1.5 (build 1.5.6.1269 or above).**
- Since the introduction of MOR-3555, all scripts which reference the "Video Source" fields must be re-loaded from the code-base since they will no longer work. This includes schedule converters and Eventstore scripts. Time must be allotted so that these can all be tested in an upgrade scenario. This should not be necessary in new installations as the scripts would normally be loaded from the code-base and tested prior to on-air usage.
- If using the new Momentum Browse functionality on Server 2008 machines, the Windows "Desktop Experience" feature must be installed for it to work correctly. See MOR-5416. Also see Known Issues, section 4 before attempting use of this feature.
- Eventstore Service Application MUST now run all the time and the Message Broker database must be configured and setup accordingly. It provides features to the Morpheus system as a whole which include Commercial Reporting and Automated Missing Material Reporting. See the release note for MOR-5101 to configure alarms to show when it is not running.
- Visual C++ Redistributable for Visual Studio 2012 Update 1 – Needs both x86 and x64 deployments, **and Visual C++ Redistributable for 2013.**
- **DotNet v4.5 Framework essential (so will not work on XP or other older OS's)**
- MAPP Application Server 5.0 or later.
- Installation requires the deployer files to be copied to the target directory before they are run. If you see a message "Error parsing version information", this has not been done.
- If upgrading from a system older than V2.3, extra software updates are required for Material Transfer Status. In addition to this software, the latest Application Server (V4.0 or above), together with Database Schema 5.0 are required. It is highly recommended that the latest versions of Application Server and Database schema are deployed.
- The Queues will need to be recreated when upgrading from previous major versions. Some minor versions may be compatible, however it is not guaranteed, so please ensure that you export your configuration BEFORE upgrading. If upon running the upgraded applications a "stream mismatch" error is displayed, the system needs to be re-created by importing the latest configuration.

- If updating from a Rescale schema at Version 1, it will be necessary to delete the existing Rescale database (or the tables therein) in order to install the most recent Rescale schema. If you are already at version 2 or above, the latest schema will be installed. It is necessary to have the most recent Rescale schema installed.
- BXF, Journal and AsRun databases may also need to be recreated depending on the previous version.
- If upgrading from 1.10 or earlier, the Application Server configuration needs to be entered in the Event Store configuration application (more than one for dynamic failover).

## 3 New features and product improvements

### **Bridge Changes:**

MOR-7206: Put Rescale connection string back into Registry  
Rescale connection string is now back in Registry.

MOR-7204: Bridge to support command line option to reduce initial connection countdown  
Bridge "/countdown <seconds>" command line argument sets initial connection countdown time.  
"/countdown off" will disable automatic connection.

### **BXF Changes:**

MOR-7123: Imported add and remove BXF messages shall be stored as a ZIP file with the message ID and schedule ID indicated in the filename. Rejected messages should be stored separately.  
Added option to setup separate folder to export messages that fail to process.

MOR-7046: Filter Displayed Syncsets in MultiSite Control Tool  
Added filter by sync set. The tool will only show the sync sets on the filter. If no filter specified it will show all sync sets.

MOR-6933: BXF Query Service To Not Query Channels That Are Not Configured But Share the Same SIO

BXF Query added an option to disable a Channel. When the channel is disabled, BXF Query will ignore any query for the channel and act like the channel does not exist.

MOR-6745: Multi-site tool does not dynamically update state.

MultisiteControl: Added new functionalities:

- Update when another station starts or stops the workflow.
- Show a link for the latest execution plan.
- When stopped, will stop all the WFs for the sync set, including the ones that fail.

MOR-5964: Provide support to SMPTE BXF 3.0

Added support for BXF v3.0 (2013).

### **Commercial Hotlist Changes:**

MOR-6376: Modification to clone events created when using the CHL Cue to PST feature

Added a check box to the configuration menu of the Commercial Hot List so now the cloned event can be set to follow on

### **Configurator Changes:**

MOR-7010: Lock mechanism on Eventstore Test / Configurator

Configurator and Eventstore test can now be locked with a password preventing unauthorised access.

### **Deployer Changes:**

MOR-7206: Put Rescale connection string back into Registry  
Rescale connection string is now back in Registry.

MOR-7140: Morpheus needs to write Rescale information to the HKEY\_LOCAL\_MACHINE registry section to allow any user to run Morpheus applications  
Certain registry items have either been moved to a file, or moved into HKLM accordingly.

### **Eventstore Changes:**

MOR-6949: Modify Alternate Break functionality to allow breaks to be disabled.  
Modification made to the Alternate Break feature accessed through the Workstation when a system is configured for Enable Alternate Breaks. Breaks may now be enabled or disabled directly from the context menu of the Event View in addition to designating the selected break. A break may now only be Selected or Unselected if it is enabled. If a break is disabled it is effectively taken out of the toggling facility provided by Alternate Breaks.

MOR-6898: Commercial hourly content report 'enhancement'.  
Commercial period report configuration and display now allow for 999 minutes.

MOR-6813: Morpheus feature to disable channels and associated devices  
Added a Hide If Automation Off property to the channel configuration. Now when this property is active and a channels automation is turned off then the channel will no longer be visible from the editor or the workstation

### **Eventstore Script Changes:**

MOR-6978, MOR-7205, MOR-7124, MOR-7065, MOR-7030, MOR-7023, MOR-6981, MOR-6907, MOR-6781, MOR-6724.

### **Eventstore Test Changes:**

MOR-7010: Lock mechanism on Eventstore Test / Configurator  
Configurator and Eventstore test can now be locked with a password preventing unauthorised access.

MOR-6770: Benchmarking Morpheus Performance  
The old TPS button has now been renamed Extra  
This drops down a menu, of which "Morpheus Benchmarking" is an item. This will open a dialog which allows channel / schedule selection, and run control of the benchmarks. The selected schedule will be loaded, then it will wait for all devices to be ready (this requires a fully running and configured system). The channel will be populated and cleared; this must not be done on a live system. The timing results are then displayed.

### **EWS Scripts Changes:**

MOR-6873: 'Gang N+1 Synch' script to be modified for 2 and 3 channel operation  
Gang N+1 script modified so that channels can be configured. Option added to be able to configure "forceRelease" of channels.

### **Host Shell Changes:**

MOR-7126: Looping headers (with a mediaball) no longer loop when followed by fixed start time event

Looping Break service now allows Mediaballs that inherit parent duration to be used on the Looping BreakHeader.

MOR-7106: BXF Media Change Notifier add an option to only include the listed devices  
Option added to only send message content about configured devices, not all.

MOR-7049: Improve latency issues when performing Omneon Hostshell validation by not accessing files using Samba/CIFS  
Now using file presence method as recommended by Harmonic

MOR-7036: Always use OmPirClipExists when checking presence of files during Hostshell Omneon validation  
Now using improved file detection.

MOR-6933: BXF Query Service To Not Query Channels That Are Not Configured But Share the Same SIO

BXF Query added an option to disable a Channel. When the channel is disabled, BXF Query will ignore any query for the channel and act like the channel does not exist.

MOR-6820: "Device Allocation = None Available" To Turn Editor Barrel Red  
Events with a Device Allocation Status of 'None Available' will appear in the Editor with red status barrels.

MOR-5964: Provide support to SMPTE BXF 3.0  
Added support for BXF v3.0 (2013).

### **Lazy Script Changes:**

MOR-7035: Lazy script to generate PGM/PST UMD text label  
Added new script to generate UMD text label based on selected source

### **MAPP VME Provider Changes:**

MOR-7112: MAPP VME Provider  
MAPP VME Provider implemented as AgentHost plugin to provide the Morpheus App Server to VME.

### **Morpheus Application Server Changes:**

MOR-7161: Morpheus Application Server shows the database and Application Server passwords in plain text  
Application Server now has improved password entry.

MOR-6597: Change Morpheus Application server to make converting material id to upper case optional  
Application Server has option to not capitalize MaterialIDs

### **Panoplay Changes:**

MOR-7046: Filter Displayed Syncsets in MultiSite Control Tool

Added filter by sync set. The tool will only show the sync sets on the filter. If no filter specified it will show all sync sets.

### **Schedule Converter Changes:**

MOR-6921, MOR-6902, MOR-6839, MOR-6686, MOR-6670, MOR-6662, MOR-5948, MOR-5687

### **ScriptManager Changes:**

MOR-6893, MOR-6839, MOR-6614, MOR-6579, MOR-5709

### **SQ Driver Changes:**

MOR-7069: sQ Play driver - switching to new Clip ID which shares VDCP ID

Added new UseLatestClip setting in [Control] section of driver's ini file.

This will (1) instruct the sQ Play driver to pick the most recently created clip, if more than one match is found for the specified file id. Without this setting, having more than one match will generate an error for that clip until those extra clips are removed.

(2) Whilst playing a clip, if a new and longer version of that clip becomes available, the driver will switch over to use that newer version when the duration of the clip is changed in Morpheus.

### **System Health Monitor Changes:**

MOR-7143: System Health Monitor should not need to be run with Administrator rights

The system health monitor can now be run without being administrator.

### **Util Changes:**

MOR-7153: Allow IconLibrary to load SVG files

Morpheus IconLibrary now understands .svg files placed in the Icons directory in Morpheus installations. These will be returned to Morpheus UX as SVG, and returned as scaled rasterised images to existing Morpheus Windows Applications, overriding any other icons with the same name.

### **VME Provider and Plugins Changes:**

MOR-7158: UX Panel - request to make Alert banner (Message Banner Widget) more prominent  
Morpheus UX "Banner Message" now more prominent

MOR-7137: Morpheus UX MAPP media query function

MorpheusUX Media Selector component implemented, using MAPP VME Provider (an AgentHost provider) for communication with Morpheus App Server

MOR-7129: Morpheus UX missing material report and event errors populate property inspector with play clip info

Added a feature to the Morpheus UX Property Inspector so that if the selected event is hidden it will go up the owner tree until it finds a non-hidden event.

MOR-7095: Mediaball (based on primary event) insertion is not possible from UX palette

Added a feature to the Morpheus UX MediaBall Palette to allow main chain events to be added as Siblings or as child events (where allowed) or at the top of the schedule.

MOR-7073: Event status panel of material event is made of 2 barrels instead of 1

Morpheus UX Barrel Widget in Editor now shows only a single large icon when material and kernel status icons are the same

MOR-7043: Morpheus UX to support read only mode for Panoplay Slave and Tertiary state channels

Added protection to the MIP panel buttons and the schedule Delete and Paste buttons for when a channel is a PanoplaySlave or a BXF Tertiary Target channel.

MOR-6964: Morpheus UX modifications

Channel Selector, Active Channel Follower and Operator Station Active Channel Follower now optionally have a setting to limit the systems they are allowed to consider.

Morpheus Message Banner now supports "canned" messages, i.e. pre-prepared messages.

MOR-6300: Inter-site Sync- sync failure alert

New Morpheus UX schedule synchronisation failure alert component.

### **Workstation/HUD Changes:**

MOR-6949: Modify Alternate Break functionality to allow breaks to be disabled.

Modification made to the Alternate Break feature accessed through the Workstation when a system is configured for Enable Alternate Breaks. Breaks may now be enabled or disabled directly from the context menu of the Event View in addition to designating the selected break. A break may now only be Selected or Unselected if it is enabled. If a break is disabled it is effectively taken out of the toggling facility provided by Alternate Breaks.

MOR-6898: Commercial hourly content report 'enhancement'.

Commercial period report configuration and display now allow for 999 minutes.

MOR-6820: "Device Allocation = None Available" To Turn Editor Barrel Red

Events with a Device Allocation Status of 'None Available' will appear in the Editor with red status barrels.

MOR-6724: N+1 on multiple channels script to execute on 3 channels and be run from a MIP button

GangNPlusOne script modified to operate on three channels.



## 4 Issues resolved in this release

### **Asrun Database Reporter Changes:**

MOR-7162: Folder access issues with manual publish of event journals on more than one channel  
Handling of multiple channels; filenames will be generated from the start time + channel name.

MOR-7099: Automation Database Reporter GUI freezes when viewing publisher configuration when using SQL 2014  
Fixed issue with recursive code in UI

### **AsRun Merge Tool Changes:**

MOR-7165: AsRun Region merge - 'Error merging: Object reference not set to an instance of an object.  
Correctly gathers the children of the top level nodes in the time span as opposed to all events in the span.  
This was causing extra events to be pulled out which spoilt the merge.

### **Automated Material Checker Changes:**

MOR-7020: AMC Forgets Configuration Once It Starts Scanning  
AMC configuration is no longer deleted when scanning or using other parts of the AMC application.

### **BXF Changes:**

MOR-7168: 'TargetSite' out of sync when Take Next is performed on a short duration clip  
Fixed a problem when taking next into an event that does not have enough time to play.

### **Controller Monitoring Utility Changes:**

IssueType: 1  
MOR-7125: CMU configuration does not allow IP port to be specified  
Now allows non-default IP ports to be specified

### **Deployer Changes:**

MOR-7024: Occassional loss of RescaleFileDeployment.xml content  
The deploy tool now creates a backup rescale file deployment xml in the common documents in a folder named MorpheusBackups

### **Eventstore Changes:**

MOR-6642: Fix 'scheduling error' on time-linked reference events

Added TimeLink reference & declaration checking the SchedulingErrorSpecification

It will now check if the event in question is a TimeLinkReference and whether it has the same StartTime as its TimeLinkDeclarer

### **EventStreamAggregator Changes:**

MOR-7169: Column Names not updating correctly if the Entity Type is changed between searches  
The columns in the search aggregator now update correctly when the entity type is changed between searches.

MOR-7012: Menu item text not fully visible in the configure columns menu

Configure Columns menu changed in the search aggregator to ensure all of the text is visible

MOR-3860: Exception when adding an operand for EntityRangeEnd

Made changes to the search aggregator so that a search operand could be added to entityrangeend without causing an exception

MOR-3859: Exception when adding an operand for EntityRangeStart

Made changes to the search aggregator to allow a search operand to be added to EntityRangeStart without causing an exception.

MOR-3850: Searching by EventSource doesn't work

Made changes to the Search Aggregator to allow searches by eventsource.

MOR-3849: Searching by batchid doesn't work

Made changes to the Search Aggregator to make it possible to search by batchid without throwing an exception.

### **Host Shell Changes:**

MOR-7044: Device Manager Doesn't Ripple Decoders

Fixed an issue with Device Manager where it would not re-allocate events further down the schedule if it had a lot of work to attempt but could not achieve (e.g. a device was disconnected by there was no alternative). Also improved the performance of it so it works faster.

MOR-7016: Shutting down hostshell cause sQ to play in black for 12 seconds

Added new Validation Mode for Quantel Driver to allow it to be used for validating clips via ports whilst those ports are in use by other parts of Morpheus.

MOR-6998: Decorate once not working on Guard server when SomOffset selected in Material decorator

Made changes to the decorate once feature on the material decorator service. The service now behaves more consistently, specifically when the SOMOffset of a material event is changed.

MOR-6962: MediaballInserterService continuously inserts/removes MediaBalls when multiple configuration entries have been defined

Multiple configurations can be set in the mediaball inserter service, this will insert the list of specified events that match into the live editor. There is a selectable option which allows the feature to only insert the 1st time and doesn't add it on deletion.

#### **JIP Changes:**

MOR-6941: CFC JIP is unable to disable breaks when using a dynamic rejoin mode and system is configured for Alternate Breaks

Modification made to the CFC to accommodate recent changes to the Alternate Breaks feature so as to align with new method of break disabling.

#### **Morpheus Application Server Changes:**

MOR-7164: Morpheus App Server creates multiple connections causing the Snell App Server to crash

Morpheus AppServer now LogsOut from Mapp application server if LoggedIn method fails

#### **MultiHUD Changes:**

MOR-7163: Multihud Inconsistency When Break Events Are Expanded

MultiHud improvement to ensure that non-displayable child of collapsed parent no longer overrides parent's error highlight.

#### **Schedule Converter Changes:**

MOR-7071, MOR-7064, MOR-6966

#### **Time Provider Changes:**

MOR-7133: Morpheus Time provider does not initialise Adapter drop down properly

Fixed an issue in Morpheus Time Provider configuration program. Adapter drop down list was not being correctly initialised at startup.

#### **Timeplane Changes:**

MOR-7003: Timeplane when switched to Horizontal Mode has excessive CPU and Memory usage. Fixed issue where the Morpheus Timeplane showed excessive CPU and memory usage when running in horizontal mode.

#### **VME Provider and Plugins Changes:**

MOR-7186: UX Message Banner can't clear message and wrong character count reported when trying to clear message

Morpheus UX message banner component did not correctly handle clearing a message

MOR-7117: Device and Material barrel positions on UX do not match Editor/Workstation  
MorpheusUX Editor Barrel Status Widget now renders the material-related icon top left and the kernel-related icon bottom right, so it matches the HUD and Workstation.

**Workstation/HUD Changes:**

MOR-7141: Toggle Bookmark no longer functions in the Editor.  
Bookmark toggling now re-enabled.

MOR -7134: Swap icons for InwardsHorizontal and InwardsVertical transitions  
Swapped icons for InwardHorizontal and InwardVertical Transitions

MOR-7055: Broken Ripple Pattern Dialog in Editor  
Improved visibility of Icons in Editor configuration window for individual channel, under ripple tab

## 5 Known issues

- **Due to the introduction of MOR-3555, all scripts which reference the “Video Source” fields must be re-loaded from the V4.6 versions. This includes schedule converters and Eventstore scripts. Time must be allotted so that these can all be tested in an upgrade scenario. This should not be necessary in new installations as the scripts would normally be loaded from the V4.6 codebase.**
- The deploy tool will fail the platform test if .NET 2 is not installed, even though it correctly reports that .NET 4 is installed, and .NET 2 isn't strictly necessary for this version. It's only an issue when building a system from scratch, and doesn't stop the deployment from happening.
- There is a maximum window of 10 minutes when Journaling “overhanging sub-events”. This means that if a sub-event has not started by 10 minutes after the end of its top-level parent event, it will not be added to a Journal entry. Operationally, it would be very unusual for sub-events to overhang by this amount.
- MPP operation may not be correct when using the Commercial Hotlist with Server based material. SOM's may not be calculated for the second part correctly. The CHL is mostly used during Live material, so this is not a problem at the moment.
- When a clock tick comes into the Eventstore, it will check all events that may have already started or finished and update them to set the started and finished and collectable flags. Since the addition of Event Journaling, when there are numerous historical events to mark as started and finished (i.e. the Bridge has been closed for a long time), it can cause such a long transaction that it fails, resulting in no clock ticks ever being able to be applied, and thus the only remedy is to re-create queues. Code has been added to the Bridge so that the long Write transaction has a very long timeout value and can now be monitored as it progresses. See MOR-3716 for more information.

## 6 Compatibility issues

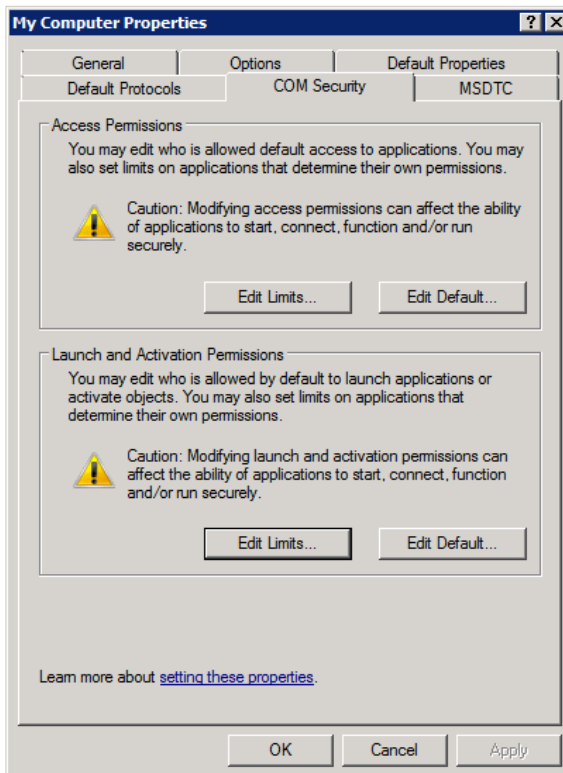
- This version must be installed (deployed) with Pbak Version 5.0 or above and MCI V1.6 (built from 1.6.5.1289) or above in order to use the current capabilities of the new Web UI (Morpheus UX). Please refer to the compatibility grid provide in the Appendix section.
- If using Missing Material Report, you must now have the EventStore Service App running. MMR will now no longer work standalone.

## 7 Obtaining this release

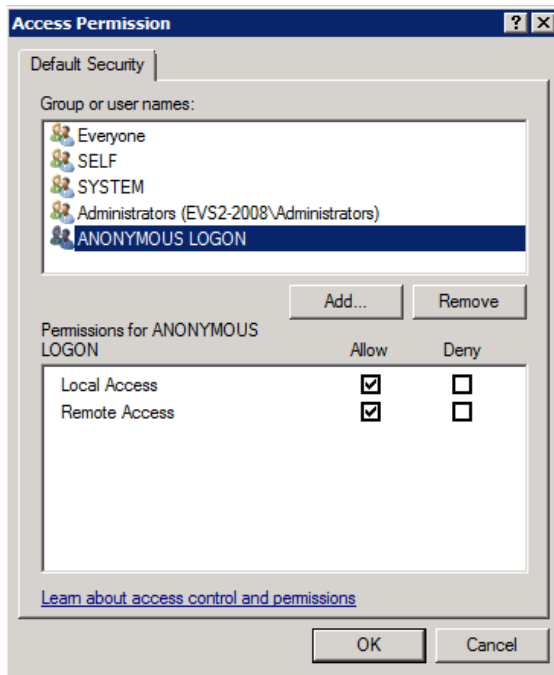
To benefit from this new release, please contact Customer Support using the details provided here <https://s-a-m.com/support/247-support/>

## 8 Appendix A

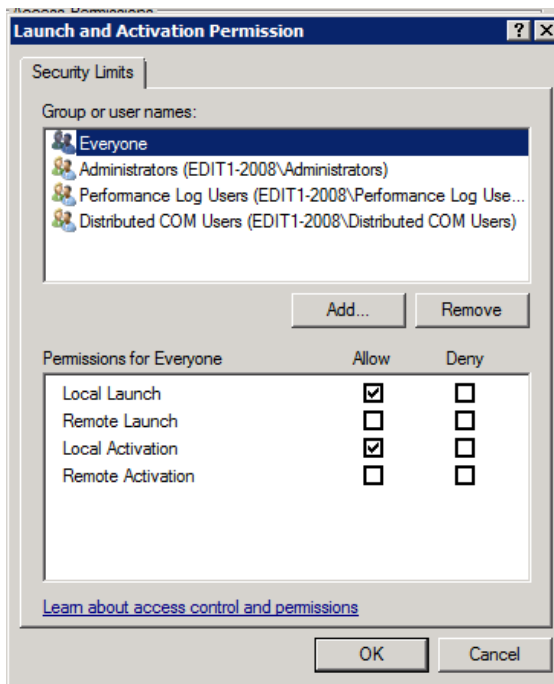
- Concerning the DCOM settings required when running under Server 2008 (note this is only relevant to the PC hosting the Morpheus Application Server or the legacy Application Server since they use DCOM to communicate). PCs must have the same WORKGROUP login. The dcomcnfg settings should be as follows:



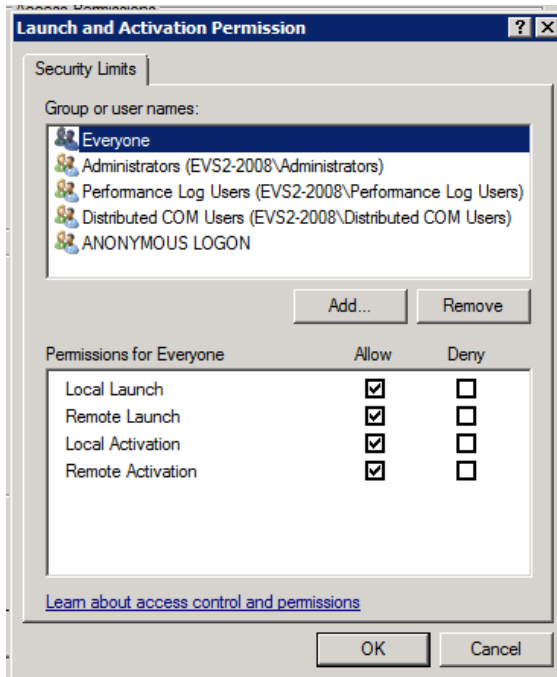
As normal, add the ANONYMOUS LOGON user under Selection Access Permissions \ Edit Default



Now also check under Launch and Activation Permissions \ Edit Limits. By default, there were unwanted limits for "Everyone":



DCOM will function when these are overridden:





## Morpheus – Pbak - Ice Deployment Version Compatibility

### 9 Morpheus - Pbak Deployment Version Compatibility

The table below details the compatibility between versions of Morpheus and Pbak DLLs when deployed with Morpheus:

		<i>Pbak Deployment</i>								
		Trunk	v2.1	v2.2	v3.0	v4.0	v4.1	v4.2	v5.0	
<i>Morpheus</i>	Trunk	✓	✗	✗	✗	✗	✗	✗	✗	
	v2.4	✗	✓	✓	✓	✗	✗	✗	✗	
	v2.5	✗	✓	✓	✓	✗	✗	✗	✗	
	v3.0	✗	✓	✓	✓	✗	✗	✗	✗	
	v3.1	✗	✓	✓	✓	✗	✗	✗	✗	
	v4.0	✗	✗	✗	✗	✓	✗	✗	✗	
	v4.1	✗	✗	✗	✗	✓	✗	✗	✗	
	v4.2	✗	✗	✗	✗	✗	✓	✓	✗	
	v4.3	✗	✗	✗	✗	✗	✓	✓	✗	
	v4.4	✗	✗	✗	✗	✗	✓	✓	✗	
	v4.5	✗	✗	✗	✗	✗	✓	✓	✗	
	v4.6	✗	✗	✗	✗	✗	✓	✓	✗	
	v4.7	✗	✗	✗	✗	✗	✓	✓	✗	
	v4.8	✗	✗	✗	✗	✗	✓	✓	✗	
	v5.0	✗	✗	✗	✗	✗	✗	✗	✓	
	v5.1	✗	✗	✗	✗	✗	✗	✗	✓	
	v5.2	✗	✗	✗	✗	✗	✗	✗	✓	
	v5.3	✗	✗	✗	✗	✗	✗	✗	✓	
	v5.4	✗	✗	✗	✗	✗	✗	✗	✓	
	v5.5	✗	✗	✗	✗	✗	✗	✗	✓	
	v5.6	✗	✗	✗	✗	✗	✗	✗	✓	

Note 1: Morpheus v5.0 and above is only compatible with Pbak v5.0 due to the move to .Net 4.5

Note 2: At Pbak v4.1 the mixed mode DLL syntax was modernised, this required a change to Morpheus, hence only v4.2 Morpheus should be used in conjunction with it.

## 10 Morpheus – Morpheus Common Infrastructure (MCI) Version Compatibility

The table below details the compatibility between versions of Morpheus and Common Infrastructure deployed with Morpheus: Introduced at Morpheus v5.0

		<i>MCI Deployment</i>							
		v1.0	v1.1	v1.1.1	v1.2	v1.3	v1.4	v1.5	v1.6
<i>Morpheus</i>	v5.0	✓	✗	✗	✗	✗	✗	✗	✗
	v5.1	✗	✓	✓	✗	✗	✗	✗	✗
	v5.2	✗	✓	✓	✓	✗	✗	✗	✗
	v5.3	✗	✗	✗	✗	✓	✗	✗	✗
	v5.4	✗	✗	✗	✗	✗	✓	✗	✗
	v5.5	✗	✗	✗	✗	✗	✗	✓	✗
	v5.6	✗	✗	✗	✗	✗	✗	✗	✓

## 11 Pbak Deployment - Pbak RTB Version Compatibility

The table below details the compatibility between versions of Pbak DLLs deployed with Morpheus and Pbak RTBs used on 2330 or 2460 controller cards. **NOTE: Pbak V4.2 or above must be used for all 2460 card installations and V5.0 or above for all 2461 cards.**

		<i>Pbak RTB</i>							
		Trunk	v2.1	v2.2	v3.0	v4.0	v4.1	v4.2	v5.0
<i>Pbak Deployment</i>	Trunk	✓	✗	✓	✓	✓	✓	✓	✓
	v2.1	✓	✓	✓	✓	✓	✓	✓	✓
	v2.2	✓	✗	✓	✓	✓	✓	✓	✓
	v3.0	✓	✗	✓	✓	✓	✓	✓	✓
	v4.0	✓	✗	✓	✓	✓	✓	✓	✓
	v4.1	✓	✗	✓	✓	✓	✓	✓	✓
	v4.2	✓	✗	✓	✓	✓	✓	✓	✓
	v5.0	✓	✗	✓	✓	✓	✓	✓	✓

Note: RTBs are backwards compatible so v2.1 Pbak deployment is compatible with any RTB, but due to a re-write of the PbakConnectAssy DLL at v2.2 when deploying this version or above, ALL RTB's must also be at least v2.2. Care must be taken when upgrading from a v2.1 Pbak deployment, all RTBs of v2.1 and below must be upgraded first.

## 12 Pbak Deployment - ICE Version Compatibility

The table below details the compatibility between versions of Pbak deployed with Morpheus and ICE:

		ICE	
		pre v3.1	v3.1 and above
<b>Pbak Deployment</b>	Trunk	✘	✔
	v2.1	✔	✔
	v2.2	✘	✔
	v3.0	✘	✔
	v4.0	✘	✔
	v4.1	✘	✔
	v4.2	✘	✔
	v5.0	✘	✔

Note: Support for the new PbakConnectAssy was introduced to ICE at v3.1, this version is also backwards compatible with v2.1 Pbak deployment.

## 13 Copyright

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