

---

## Table of Contents

1: Introduction.....	5
1.1: Overview.....	5
1.1.1: Learning MEF Programming.....	5
1.1.2: Getting the MEF Source.....	5
1.2: File System Layout.....	5
1.3: Preliminaries.....	6
1.3.1: Tuple.....	6
1.3.2: Strings.....	7
1.3.3: NOLOC.....	7
1.3.4: Silverlight.....	7
1.3.5: Suppress Messages.....	8
1.3.6: AssemblyInfo.....	8
2: Microsoft.Internal.....	9
2.1: Microsoft.Internal.Collection.....	9
2.2: Weak References.....	9
2.3: Microsoft.Internal.Runtime.....	10
2.4: Microsoft.Internal.....	10
3: MEF Error Handling & Debugging.....	12
3.1: Big Picture.....	12
3.2: CompositionElement.....	12
3.3: Composition Errors.....	14
3.4: Exception Handling.....	15
3.5: Debugger Attributes.....	16
4: MEF Primitives.....	17
4.1: Types Used From Main Composition Namespace.....	17
4.2: INotifyComposablePartCatalogChanged.....	19
4.3: Definitions.....	20
4.3.1: ComposablePartDefinition.....	20

---

4.3.2: ExportDefinition.....	20
4.3.3: ImportDefinition.....	21
4.3.4: ContractBasedImportDefinition.....	21
4.4: Part, Catalog and Export Primitives.....	22
4.4.1: Export.....	22
4.4.2: ComposablePart.....	23
4.4.3: ComposablePartCatalog.....	23
5: ReflectionModel.....	25
5.1: Reflection Items.....	25
5.2: Reflection Helper Types.....	27
5.2.1: IReflectionPartCreationInfo.....	27
5.2.2: LazyMemberInfo.....	27
5.2.3: ExportingMember.....	28
5.2.4: ReflectionExtensions.....	28
5.3: ImportingItems and ImportType.....	28
5.4: Reflection Definitions.....	29
5.4.1: ReflectionMemberExportDefinition.....	29
5.4.2: ReflectionXXXImportDefinition.....	29
5.4.3: ReflectionComposablePartDefinition.....	30
5.4.4: ReflectionComposablePart.....	30
5.5: ReflectionModelServices.....	32
5.6: Notes On the ReflectionModel Namespace.....	33
6: Attributed Programming Model.....	34
6.1: AttributeModel Namespace.....	34
6.2: Services.....	35
6.3: Export Attributes And Collections.....	35
6.4: Imports.....	36
6.5: Additional Attributes.....	36
6.6: Results.....	37
6.7: Metadata.....	37
6.8: INotifyImportSatisfaction.....	38

---

7: Hosting.....	39
7.1: Helper Types.....	39
7.2: ExportProviders.....	40
7.2.1: ExportProvider.....	40
7.2.2: ComposablePartExportProvider.....	41
7.2.3: CatalogExportProvider.....	41
7.2.4: AggregateExportProvider.....	41
7.2.5: AdapterDefinition.....	42
7.2.6: AdaptingExportProvider.....	42
7.2.7: CompositionContainer.....	43
7.3: Catalogs.....	45
7.3.1: TypeCatalog.....	45
7.3.2: AssemblyCatalog.....	45
7.3.3: DirectoryCatalog.....	46
7.3.4: AggregateCatalog.....	46
7.4: CompositionEngine.....	47
7.4.1: CompositionState and ComposablePartState.....	47
7.4.2: Private Fields.....	47
7.4.3: SourceProvider Property.....	48
7.4.4: TrySatisfyImports, the Part Stack and the Part State Machine.....	48
8: Caching (Old).....	50
9: MEF Samples.....	51
9.1: Meflook.....	51
9.1.1: EmailService.....	53
9.1.2: Meflook.App.....	54
9.1.3: Error Handling.....	55
9.1.4: Meflook.Shell.....	56
9.1.5: Shared or Non—Shared?.....	58
9.1.6: Detailed Look at Meflook.....	58