Service Update Application Documentation

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The Service Update Application consists of three main components:

1. MainWindow XAML

MainWindow:

The user interface for the application, implemented using XAML. Users can view machine information and perform various actions on the machines using the provided buttons.

Purpose:

The MainWindow serves as the main user interface for the Service Updater application. It allows users to view information about machines, their installed versions, perform actions such as getting installed versions, installing updates, uploading files, and executing XCopy operations.

DataGrid:
Displays information about machines, Machine IP Address, Port, Installed Version, Installed File Path, Latest Version, Target Folder Path.

Actions:

Get Installed Version:
Allows the user to retrieve the installed version of the application on the machine.

Update Service:
Allows the user to send very small install updates file for the application on the machine. If large file trying to send by the user then an exception will be thrown.

Upload File:
Allows the user to upload a file to the machine in chunks. Large file can be uploaded in chunks using gRPC service.

XCopy:
Allows the user to execute an XCopy operation.

Self-Update:
Allows the user to perform an XCopy operation and launch newer version based on provided settings.

2. MainViewModel Code-Behind

MainViewModel:

The code-behind file for the MainWindow, containing the logic and functionality to interact with the user interface.

- GetInstalledVersionAsync: Asynchronously retrieves the installed version of the selected machine using the GRPCClientHelper.
- UpdateService: Initiates the small update file upload process for the selected machine using the GRPCClientHelper.
- UploadFile: Uploads a large file in chunks to the selected machine using the GRPCClientHelper.
- XCopyFolder: Executes an XCopy operation on the selected machine using the GRPCClientHelper.
- Self-Update: Executes an XCopy operation on the selected machine with provided settings and launches new instance of updated service.

3. GRPC Service

GRPC Service:

Purpose:
The GRPC service code defines the server-side implementation of the DeployUpdates service, responsible for handling communication with client applications, receiving update-related requests, and performing corresponding actions such as retrieving the latest version, installing updates, uploading files, and executing XCopy operations.

Namespaces Used:
- Google.Protobuf: Provides support for Protocol Buffers serialization and deserialization.
- Grpc.Core: Contains types for working with gRPC services.
- Microsoft.Extensions.Logging: Enables logging functionality.
- System.Diagnostics, System.IO, System.Net: Standard .NET namespaces for handling processes, file operations, and networking.
- System.Diagnostics.Metrics: Provides types for measuring performance metrics.
- System.Configuration: Allows accessing configuration settings.

Methods:
- GetLatestVersion: Retrieves the latest version of the application.
- SendUpdates: Receives small update files from the client and saves them to the update installer folder.
- InstallUpdates: Installs updates using the update installer files.
- UploadFile: Receives large file upload requests from the client and saves the uploaded file using chunks.
- XCopy: Executes XCopy operation to copy files/folders from source machine to target machine.
- SelfUpdate: Executes XCopy operation to copy files/folders from source machine to target machine and launches updated instance of gRPC server.

Summary:

Each component plays a crucial role in enabling the functionality of the Service Update Application, allowing users to view machine information, perform updates, and execute various actions related to service deployment.