ESRI’s ArcObjects provides a powerful platform from which many custom GIS applications are built. The ArcMap object model grants developers considerable access to the ArcMap application for the purpose of extending and customizing ArcMap. However, such customizations are often limited by the extent to which the ArcMap internal functions are exposed via interfaces. Customization involving deep integration into the ArcMap display pipeline can present considerable programming challenges due to this limited exposure. One recent example of this is a prototype integration of Pliable Display Technology (PDT) by IDELIX into ArcMap. In this case, the objective was to make the full capabilities of PDT, including multi-scale viewing and data interaction, available in ArcMap in such a way that all existing ArcMap tools for tasks such as editing, annotation, and measurement would function seamlessly through PDT "lenses". Such seamless integration would provide substantial productivity and usability benefits for end users of ArcMap. While significant progress was made in demonstrating PDT's viewing-only capabilities in ArcMap, substantial challenges remain in achieving complete PDT integration in the ArcMap display pipeline such that PDT would work in conjunction with the existing ArcMap tools. In the present session, the current state of PDT integration in ArcMap will be discussed and contrasted with a full integration of PDT within an open source application.