

Using the ISS to Prepare for Exploration (01)
ISS as the Foundation for Exploration (1)

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ENABLING EXPLORATION THROUGH DOCKING STANDARDS

Abstract

Human exploration missions beyond low earth orbit will likely require international cooperation in order to leverage limited resources. International standards can help enable cooperative missions by providing well understood, predefined interfaces allowing compatibility between unique spacecraft and systems. The International Space Station (ISS) partnership has developed a publicly available International Docking System Standard (IDSS) that provides a solution to one of these key interfaces by defining a common docking interface. The docking interface provides a way for even dissimilar spacecraft to dock for exchange of crew and cargo, as well as enabling the assembly of large space systems. This paper provides an overview of the key attributes of the IDSS, an overview of the NASA Docking System (NDS), and the plans for updating the ISS with IDSS compatible interfaces. The NDS provides a state of the art, low impact docking system that will initially be made available to commercial crew and cargo providers. The ISS will be used to demonstrate the operational utility of the IDSS interface as a foundational technology for cooperative exploration.