



Section A

Introduction to the Athena Technical Plan

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Overview

The hardware, software, and communication systems that support Project Athena are composed partly using using off-the-shelf subsystems from primary and third-party vendors, partly with locally modified versions of off-the-shelf subsystems, and partly with new components developed by Project Athena.

This technical plan captures in a loose-leaf notebook the overall architecture of the support system for Project Athena. It has several purposes:

- Communication within Project Athena.
- Communication with M.I.T. faculty developers.
- Communication with interested people outside M.I.T.
- Checking consistency of different subplans.
- Providing traceability from tasks back to requirements.
- Providing a mechanism for review and agreement among developers and between developers and other project participants.

Section B of the Athena Technical Plan provides an overview of the objectives of Project Athena and develops a high-level list of requirements that the Athena system must meet. Sections C and D describe the envisioned Athena computation environment and the evolution scenario by which Athena will reach that environment. Sections E through G of the plan specify detailed plans for all those areas that require development or extensive modification of available subsystems. Section H contains miscellaneous related plans, and Section J contains a list of standards, specifications, and references to other documentation.

Not included in the scope of the Athena Technical Plan are several other related activities of Project Athena: deployment plans, operation plans, user service plans, administration plans, funding plans, and faculty development plans.

The Planning Process

This document is dynamic: it begins as nothing but a table of contents of hoped-for documents, in a loose-leaf binder. As time progresses, the actual plans are laid, and the documents begin to appear. As necessary, the table of contents changes to reflect better understanding of the components of the plan, and the plans themselves may change in response to discovery of better ideas. Periodic updates consisting of new or replaced plan sections thus will fill out the loose-leaf binder.

Each plan section is commissioned, and the result is a document with an identified author or authors, whose name appears on the first page of the plan section. The table of contents contains one entry for each section that currently appears to be needed for plan completeness. Those sections that have been commissioned or are being circulated in draft form are listed in the table of contents as "in progress". A date next to a table of contents entry means that that section has been distributed to holders of record of the technical plan notebook.

It is a fundamental principle that implementation of a plan *follows* its writing. Violations of this principle require both an emergency and agreement of the technical director.

Contents of a Plan

Every detailed plan should explain which of the requirements listed in Section B it addresses. The technical description of what is planned should concentrate on the design rationale, so that a later reader can understand not just what is planned, but why. Implementation details and interface specifications should be cited rather than included in the plan. The resources and time required to carry out the plan are an important component, and dependencies on other plans and a summary of unsolved problems should be included (later updates may provide an opportunity to replace unsolved problems with solutions). Finally, every plan for development of software should discuss the long-term support strategy that Project Athena should expect to follow. For software, one of two support strategies will normally appear: the software package is temporary, and can be discarded, or the software package is permanent, and there is hope that vendors will include it in future product offerings.