Common Open System Issues–Categories–Measures Mapping		
Issues	**Category**	**Measures**
Interoperability The ability of the software applications to interchange and use data/information	Standards	Standards explicitness
		Standards maturity
		Standards vendors supporting
		Standards feature coverage
		Standards Sufficiency
	Profiles	Profile explicitness
		Profile width
		Profile coverage
		Profile extensions
		Use during product selection
		Profile Sufficiency
		Profile Documentation
	Products	Products available supporting
		Product performance
		Platforms supported
	Conformance	Degree of conformance
		Prod-to-Prod interoperability
Portability The ease with which a system can be transferred from one organizational, hardware or software environment to another	Interfaces	Number of important interfaces
		Number of open interfaces used
		Number of standard features used
		Effort
	Environment interface selection	Conformance to standard/Profile
	Application specific features	System specific features (appl)
		Implementation language
		Other program quality character
	Standards	Quality of Standards
		Profiles: appli, conformance, doc
	Testing/Qualification	Conformance Testing
		Product port demo
		Product performance demo
	Tools	Cross Compilers
		Other tools
Scalability Extend or add existing OSI (8 combinations Xref CDFET)	Technologies/standards supported	Interface sufficiency
	Testing	Paper design study
		Models
		Prototype testing
	Cost of Scaling	Cost of Scaling
User Portability		
Maintainability		
COTS Volatility		
Extensibility		

Table 1: Common Open System Issues–Categories–Measures Mapping

Measure	Profile Explicitness
Measurement Category	Profiles
Issue	Interoperability

Definition/Discussion

The *Profile Explicitness* measure addresses the level of detail provide in a profile/profile specification. Different levels of profile explicitness may be appropriate for a project based on a technology or the anticipated implementation of the technology. For example, a technology such as Ethernet has a very well understood interface definition, based on its maturity. While the standard (IEEE 1002.3) specifies a large number of features, the ubiquitous nature of Ethernet products, and the level at which interoperability currently exists for them across networks, may support use of an inexplicit profile of the Ethernet standard. This example may be inappropriate for 100 Megabit or Gigabit Ethernet. A different example is that of ATM technology. ATM has a number of features which are not provided in all of the implementations of products. For ATM, a more explicit profile is appropriate. Additionally, understanding profile details in employing them to support the development of applications is critical to achieving portable applications.

This measure addresses questions such as:

- Is the profile sufficiently explicit to identify key product features required for a project?
- How much effort should be budgeted for developing profiles for a particular technology area to overcome standard ambiguity?

Selection Guidance

Project Application

- Applicable to all projects

Process Integration

- Useful early in a project during planning and budgeting, during requirements and design, and in technology upgrade assessments to support product choices and application software development
- Information is available through understanding the technology marketplace; Is a standard too ambiguous, as evidenced in the diversity or dichotomous nature of the features supported by various products?
- Generally, a more detailed profile is needed because there are a large number of optional or implementation definable features with in a standard.

Usually Applied During

- Requirements Analysis
- Design

Specification Guidance

Typical Data Items

- Number of interface standards features specifically addressed in the profile
- Number of interface standards features embodied in the specification
- Number of optional standards features specifically addressed in the profile
- Number of optional standards features embodied in the specification
- Number of implementation defined standards features that are addressed in the profile
- Number of implementation defined standards features embodied in the specification

Typical Attributes

- Standards version, release date
- Profile version, release date

Typical Aggregation Level

- Interface Technology per component, subsystem or system

Typical Collection Level

- Interface Technology

Measure	Profile Extensions
Measurement Category	Profiles
Issue	Interoperability

Definition/Discussion

The *Profile Extensions* measure is similar to the Standards sufficiency/Features coverage measure. Where the standards sufficiency measure is an aid in choosing products, the profile coverage measure could be used as part of the as built system documentation to aid in understanding the extent and degree of the non-standard feature use of a product.

This measure addresses questions such as:

- How many non-standard features of a product are being deployed?
- How easily will applications port or be interoperable with products of different vendors?

Selection Guidance

Project Application

- Applicable to projects for which product extensions are used to achieve certain levels of functionality or performance in a system

Process Integration

- Useful as part of the documentation of the as built system.
- Helpful in technology upgrade assessments to support product choices. Upgrade choices that support standards based features that limit dependence on standards extensions are preferred.

Usually Applied During

- Requirements Analysis
- Design
- Implementation
- Sustaining Engineering

Specification Guidance

Typical Data Items

- Number of project profile required features supported by the standard
- Number of project profile required features (extensions) not supported by the standard.

Typical Attributes

- Standards version, release date
- Profile version, release date
- Extension documentation

Typical Aggregation Level

- Interface Technology profile

Typical Collection Level

- Interface Technology profile