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INTRODUCTION

This WG21 Strategic Plan covers a five year period, and follows the format defined on slides 108-112 of SC7N5566. This plan cover a much longer period than the WG21 Business Plan that addresses only the next 12-month period. This Strategic Plan is the 6th update to the 9th revision of a document that was begun at the WG21 Interim meeting in Mumbai, India in November 2010.

The audience for this document is other Working Groups within SC 7, Subcommittees other than SC 7 within JTC 1, WG21 liaison organizations, and experts in the asset management space with particular interest in managing information technology assets in general, and software assets in particular.

For the purposes of this document:

- Software Asset Management (SAM) is defined as “control and protection of software and related assets within an organization, and control and protection of information about related assets which are needed in order to control and protect software assets”;
- Information Technology Asset Management (ITAM) is similarly defined, but applied to all IT assets and not just software.
2 MISSION

The mission of WG21 is to create:

International standards to facilitate the management of all IT assets, across all platforms, sectors, and geographies. IT assets include software, hardware and all other types of related assets. The management disciplines covered are Software Asset Management (SAM) and IT Asset Management (ITAM).

WG21’s Terms of Reference are to:

Prepare standards to positively impact the Information Technology Asset Management (ITAM) market (including Software Asset Management (SAM)), and support the industry where possible in the uptake of ITAM & SAM standards.

3 CONTEXT

3.1 Market

The current Information Technology Asset Management (ITAM) & Software Asset Management (SAM) markets are dominated by a number of vendor-specific approaches for licensing, license management and asset optimization. Each approach is unique and employs its own terminology. While this approach may foster innovation, it also results in a software consumer being required to deal with each of those vendors on a separate basis, which leads to significant inefficiencies and prevents easy comparisons.

ITAM/SAM is often performed by a mixture of automated and manual means even in sizable organizations. The manual component is labor intensive and cannot scale to support modern distributed enterprises.

The speed of technological innovation also leads to continual change in terms of the IT assets employed, and the terms under which they are employed, which results in asset managers continually playing "catch up" to be able to provide accurate and cost-efficient management.

The few available ITAM/SAM tools are provided by a combination of a few large suite vendors and many niche companies with limited reach and integration capabilities. Additionally, SAM tools are often proprietary and closed in nature. These tools generally have a limited ability to share data sets with other IT systems. The discovery and recognition approaches used by these tools are often incorrect which leads to incomplete and invalid reporting.

However well established industry organizations are already trying to create awareness of the problems of the current approaches, and are promoting consistent terminology and common process definitions. Their work has created a basis for a huge global ITAM market that can be addressed by the 19770 family of standards.
3.2  Stakeholders

Stakeholders for ITAM are:

- Executives concerned with governance of corporate information and information technology operations;
- Software users, information technology departments and all organizations that obtain software from external entities, services in the cloud etc.
- Software publishers, including open source organizations; and
- Providers of SAM tools and services, including SAM consultancy.

3.3  Positioning

ITAM is an important component of an overall trend towards business process and governance standardization.

SAM is a key requirement in the move towards service-oriented and cloud-based architectures & virtualization. Indeed, those transitions will make it difficult and expensive to perform SAM using the current, largely manual approaches. SAM also needs to support the additional approaches for software delivery and usage provided by such ubiquitous connectivity.

SAM is also well aligned with a current trend towards increased scrutiny of the cost-effectiveness and energy utilization of information technology operations.

ITAM provides a critical foundation for information security. A set of control objectives in ISO/IEC 27001 relates to equipment security, and three of the top five Critical Security Controls named by the SANS Institute involve creating inventories of devices and software, securing their configurations, and continuous vulnerability assessment and configuration. NIST-IR 8060, in particular, identifies a number of security use cases that a more effective and automated set of data provided by software publishers will significantly enhance the ability of critical infrastructure organization to more effectively track and manage their IT security posture.

4  CURRENT STATUS

4.1  Portfolio

The current status of the portfolio of WG21 is represented by the following figure:
19970-5 provides an overview of, and a common vocabulary for, the 19770 Family of Standards, and describes each of the entities in the above figure.

The current status of the WG21 portfolio is:

- **In development**: 2 standards (19770-1 edition 3 (MSS), 19770-4), 1 technical report (19770-22);
- **Permission given**: 2 NWIP Ballots (19770-8, 19770-11);
- **Planned**: 1 standard (19770-6);
- **Cancelled**: 1 technical report (19770-7, restarting the work item will be investigated).

### 4.2 Liaison/Partners

BSA | The Software Alliance, Distributed Management Task Force (DMTF), IT Service Management Forum International (itSMFi), ISACA, International Association of IT Asset Managers (IAITAM), TagVault.org, Trusted Computing Group (TCG), and Software Asset Management Assessment AND Certification (SAMAC) are all liaison organizations that participate directly in WG21.
5  SWOT

5.1  Strengths

The strengths of the WG21 portfolio described above are:

1) **Strong existing SAM eco-system**: An extensive SAM industry practice is already in place, with training available in many geographies and online;

2) **Strong relationships between WG21 and industry**: WG21 has strong relationships with major worldwide industry organizations in the SAM space. BSA, IAITAM, ISACA, and, itSMFi) have products that reference WG21 standards, and they have directly assisted WG21 by surveying their members to provide feedback on WG21 projects in development;

3) **Significant initial take-up of tagging standards**: 19770 standards have already been adopted by many software publishers, including Microsoft, IBM, Symantec, SAP, Adobe & CA. Each of these vendors is shipping 19770-2 tags with some or all of their products;

4) **Major non-profit driver for tagging**: A non-profit membership organization (TagVault.org) has been formed under the auspices of the Institute of Electrical and Electronics Engineers (IEEE) Industry Standards and Technology Organization (ISTO) to maximize the value of 19770 tags in the market. TagVault.org is chartered to ensure consistency and compatibility between tags implemented by different vendors, and to sign tags to ensure their integrity when used in the market, and is a Class C liaison organization with WG21;

5) **Significant take-up of process standards**: The 19770-1 process standard has been adopted by the BSA, and other industry organizations, for personal training and also for organizational qualification. 19770-1 has also been linked tightly into the Microsoft SAM Optimization Model which is one of the most widely used SAM methodologies in the world. Consultancy organizations are using 19770-1 in their work, and additional industry certifications are starting to appear; and

6) **Strong interest in leveraging SAM information for cyber security**: Information within 19770 tags can support the reliable automation of cyber security processes defined in ISO standards defined by other JTC 1 subcommittees in addition to ITAM uses.

5.2  Weaknesses

The weaknesses of the WG21 portfolio described above are:

1) **Limited market penetration**: 19770 standards are currently only adopted in certain markets, and some major software publishers are not yet committed to supporting the standards;

2) **Lack of vertical focus**: No specific vertical markets (e.g. healthcare, automotive) are driving adoption of the 19770 standards;

3) **Low SAM maturity in industry**: The maturity level of SAM programs throughout industry is generally low in terms of a capability maturity model;

4) **Inconsistent implementations**: Existing SAM programs are implemented inconsistently across geographies and markets; and

5) **Slow Demand Growth**: Customer demand for SAM is only growing slowly.
In addition, the following weaknesses are inherent in the environment in which WG21 operates:

6) **Inefficient working practices:** The current ISO procedures impose significant inefficiencies and extended timescales on any development activities, and as a result focused industry consortia can almost always outperform a JTC 1 structure in a race to market impact. In addition, the support infrastructure in those consortia is often significantly better than in ISO, and can often be made available to individuals without requiring significant membership fees etc..

7) **High Overhead Membership:** WG21 struggles in attracting and retaining membership, due to a combination of a need for membership in a NB with a significant membership fee, and a requirement to physically attend meetings around the globe on an annual basis. In comparison, a consortium with an efficient infrastructure can easily attract membership from around the world at a very low cost with no travel needs; and

8) **Lack of sales statistics for standards:** ISO does not provide feedback on the sales of existing standards to guide the future work of its standards groups.

### 5.3 Opportunities

The opportunities for the WG21 portfolio described are:

1) **Enable automation:** 19770 standards provide process and information structure definitions that can be the foundation for automating activities that today are largely manual and personnel-intensive;

2) **Improve customer relationship:** 19770 standards can form the basis for transforming the vendor-customer supply relationship in application software from something that is often today somewhat contentious to a much easier information-driven process;

3) **Provide authoritative information:** 19770 tags can provide authoritative information to simplify software identification in support of IT audit and compliance activities;

4) **Secure supply chain:** 19770 tags support the concept of supply chain security, which is a hot topic in cyber security circles and is the subject of an active project in SC 27;

5) **Support systems of systems:** 19770 standards can be applied to systems of systems as well as individual systems, and they contain guidance for that situation;

6) **Provide needed scalability:** Automated SAM processes supported by flexible tools will scale to support the billions of internet-connected software-driven embedded devices expected to be in operation by 2020 in the “Internet of Things”;

7) **Leverage industry resources:** Through its liaison organizations, WG21 will be able to leverage resources outside of SC 7 to fully implement the defined strategy; and

8) **Management System Standard coordination and consistency:** 19770 standards can include useful information on how the individual standards fit together, and how they support implementations that are integrated with that of other Management System Standards (e.g. ISO 9001, ISO/IEC 27000).

### 5.4 Threats

The threats to the WG21 portfolio described are:

1) **Lengthy adoption timescales:** The pervasiveness of the IT infrastructure impacted by the 19770 standards means that the those standards will take an extended period to be
fully adopted, which in turn will mean that resources will have to be applied for an extended period to the development of the 19770 standards if they are to reach their full potential;

2) **Speed of market evolution:** The IT marketplace continues to evolve apace, and keeping up with that evolution is a challenge given the development timescales imposed by the ISO procedures. In an ideal world, WG21 standards would be prescriptive rather than reactive, but that is difficult to achieve given the current constraints.

3) **Synchronization challenges:** The need for close relationships with other activities in SC 7, with other SCs, most notably SC 27 activities on Information Security and the PC/251 committee on Asset Management, may lead to extended timescales, high complexity and diverging standards;

4) **Perception challenges:** Many information technology managers believe that asset management can be solved merely by using the correct management software product, without regard to defining usable and repeatable processes

4) **Coordination challenges:** There is a risk that inadequate coordination with WG21 liaison organizations will result in confusion within the marketplace;

5) **Existing approaches:** There are already entrenched de facto SAM approaches in the marketplace (e.g. the ITIL SAM framework), and resistance to mapping these approaches to standard ones may impede the adoption of WG21 standards; and

6) **Limited resources:** The level of participation within WG21 may not be sufficient to achieve all that is required in the WG21 Five Year Plan, and recruitment activities will be needed both in ISO and the NBs.

6 **VISION**

6.1 Status in Five Years

WG21’s vision is that in five years IT Asset Management will be in the process of transitioning from an ad hoc, predominantly manual practice to one based on formally-defined processes and an automated infrastructure that meets the needs of modern enterprises for return on investment as well as the integrated and efficient implementation of systems to manage a number of aspects including quality, information security, IT services etc..

6.2 Portfolio

WG21 expects its current portfolio to be enhanced in the following ways in five years:

1) Additional 19770 process standardization will be created that will promote use with other management systems, and addresses use of 19770 definitions in specific verticals;

2) Additional 19770 information structure standardization will be created that provides additional machine-parseable identification and entitlement information, addresses resource utilization and other SAM aspects, and serves as a basis for the automation and optimization of SAM processes and related activities;

3) Additional standards will be included in the 19770 family to support an increased focus on cyber security and cloud-based assets.
See section 8 (Strategies) for additional information on the envisaged future portfolio.

7 CORE VALUES

WG21 fully adopts and supports the core values of SC 7 as follows:

- **Customer Focus**
  - SC7 shall strive to develop products that meet the needs of its intended users and that are user friendly
- **Consensus**
  - At an International level and with regards to software and system engineering best practice
- **Full and open deliberation**
  - Active involvement with related disciplines
- **Informed participation**
  - Awareness of the subject
  - Awareness of the market
  - Awareness of JTC1 procedures
  - Awareness of project background
- **Equality and members/tolerance**
  - At a minimum to follow JTC1 procedures
- **Commitment to quality**
  - Maximize consistency and interoperability within its standards
  - Maintain awareness of best practice and user needs
  - Commitment of participants to the process
  - Recognition of the importance of continuity in standards development
  - Recognition that the coherence of its standards is more important than the perfection of individual standards
- **Professionalism**
  - Maintaining awareness of software and system engineering practices

8 STRATEGIES

WG21’s strategies for the period covered by this plan are to develop the following areas:

1) **Process Standards**: Enhance and restructure the process standards within 19770 to have them become fully-fledged management system standards within ISO, compatible with the ISO 9000, ISO/IEC 20000, and ISO/IEC 27000 families of management system standards and ISO 55000 Asset Management standards, have them mapped to significant existing industry practices, provide a basis to support the performance of process assessments (re ISO/IEC 33000), and provide appropriate guidance in response to market demand;

2) **Information Structure Standards**: Expand the scope of the information structure standards within 19770 to enhance the existing identification and entitlement information, to encompass additional types of information beyond those initial types thereby providing additional reliable authoritative and machine-parsable information to serve as a basis for the automation and optimization of SAM processes and related
activities, and to provide guidance for the use of those structures and the included information that will in turn increase the value proposition of SAM tools;

3) **Overview Standards:** Provide additional overview information and expand the current vocabulary to cover the above items and to ensure the creation of a coherent standards family; and

4) **Communication & Partnering:** Promote and evangelize the standards created above using WG21 liaison organizations and other industry groups as a conduit, through the mechanisms of mappings of industry practice, published articles, and conference presentations.

9 **TACTICS**

9.1 **Technical Work**

WG21’s tactics in the technical work area are:

1) To continue to develop the areas identified in 1) – 3) in section 6.2 above, both in terms of the level of detail provided, and the breadth of coverage of the SAM marketplace;

2) To develop and document mappings between established industry approaches and schemes and WG21’s portfolio;

3) To leverage the results of the SC 7 study group on "Emerging Software Asset Management (SAM) standard requirements in enhancing this strategic plan;"

4) To support the non-profit TagVault.org in its work to bring software creators, major software users such as governments, and other key influencers together to produce common definitions and address implementation issues; and;

5) To cooperate with the SC7/SC40 Study Group looking into mappings between ISO/IEC 20000 & ISO/IEC 19770, and to leverage its results in enhancing this plan.

9.2 **Communication**

WG21’s tactics in the communication area are:

1) To promote adoption and use of the 19770 family of standards to organizations supplying software and end user organizations worldwide;

2) To leverage WG21 liaison organizations to obtain end user feedback on WG21 technical work during the development process (reference the survey conducted with special permission from the ISO CS during the development of the revision of 19770-1 in 2011 – see [http://www.tieredsam.org](http://www.tieredsam.org) etc.); and;

3) To leverage WG21 liaison organizations to promote the activities and technologies of WG21 by producing mappings between their process models and definitions and the WG21 portfolio.

9.3 **Partnering**

WG21’s tactics in the partnering area are:

1) To partner with WG21 liaison organizations to produce training and certification
schemes based on the WG21 portfolio (reference the BSA’s SAM Advantage and Verafirm schemes); and

2) To partner with key organizations in the Free and Open Source (FOSS) area to ensure that the WG21 portfolio is usable and appropriate in that space.

10 MEASURING SUCCESS

10.1 Evaluation Approach

Different evaluation approaches are required for the process standards and the information structure standards within the WG21 portfolio, because of the vastly different ways that the standards are consumed, adopted and implemented.

The approach to evaluating success for the process standards has to be based on influence i.e. the use of those standards as a basis for knowledge products and industry activities.

The approach to evaluating success for the information structure standards has to be based on adoption i.e. the number of software creators that produce tags as part of their process of building products, and the number of those tags that have been shipped.

10.2 Key Success Factors

10.2.1 Process Standards

The key success factors for 19770-1 are:

1) The availability of training and certification schemes based on 19770-1, to enable both individuals and organizations to gain knowledge of 19770-based SAM and have their level of knowledge evaluated. A number of these schemes have been in operation for several years. Current examples are:
   a. BSA’s SAM Advantage Training course and Verafirm related certifications (see https://samadvantage.bsa.org/ and http://www.verafirm.org); and
   b. IAITAM’s ITAM 360/19770 knowledge base and assessment system (http://www.iaitam.org).

2) The availability of cross-references between accepted industry practice and 19770-1. Annex C of 19770-1:2012 contains cross references between 19770-1 and IAITAM Best Practice Library, Japan’s SAMAC Best Practices (http://www.samac.or.jp), and CobiT 4.1 (http://www.isaca.org/COBIT/).

3) The availability of additional guidance documentation on 19770-1. Current examples are:
   a. Definitive Guide to SAM Assessment and ISO/IEC 19770-1 (see http://www.ecpmedia.com/publications.html#sm_guidetosam);
   b. The ITAM Review (e.g. http://www.itassetmanagement.net/2012/11/12/microsoft-sam-optimization-model-isoiec-197701/); and
   c. The SAM Guide (see http://www.samguides.com/).
10.2.2 Information Structure Standards

The key success factors for 19770-2 are:

1) Adoption by major software creators. Currently Microsoft, IBM, Symantec, SAP, Adobe, and CA have announced support for 19770-2; and

2) Tags shipping with a growing number of software products – it is estimated that many millions of 19770-2 tags have been installed on customer equipment as of the date of this plan.
Annex A Five Years Work Plan

(First defined in Rev 8, April 2013 – updates since then in italics)

A.1 Introduction

This Annex defines the Five Years Work Plan for WG21. The following sections list the work plan items that are necessary to achieve the four strategic items listed in section 8, and the technical work tactical items listed in section 9, of the main body of this strategic plan.

A.2 Process Standards

The work plan items in the process standards area are:

1) To develop the 19770 family as a fully-fledged management system standard within ISO to:
   a. Create a revision to 19770-1 to conform to the new common MSS approach, and create additional supporting information to support this transformation (e.g. Guide 72 justification study) while retaining compatibility where possible with the tiered approach of the 2012 revision of 19770-1 (2014/09 – MSS Justification Study endorsed by SC7, 2014/12 – Permission for MSS given by ISO TMB, 2015/01 – NWIP & WD ballot begun, 2015/05 – NWIP passed with 1 No to add to program, 7 NB stating active participation, permission given for CD, 2016/02 CD ballot approved with AP12-5AC{AR,CA,CH,GB,NL}-D1{AU}-AB20);
   b. Create guidance for the implementation of 19770-1, including guidance for specific scenarios such as small businesses (begun as 19770-11) and organizational change (e.g. acquisitions, divestitures) in the context of the management of IT assets;
   c. Create guidelines for auditing against the 19770-1 processes, and for people performing those audits;
   d. Create guidelines for certification of organizations & individuals against the 19770-1 processes; and
   e. Create opportunities for obtaining market feedback on the documents in a), b) c) & d) above, utilizing WG21 liaison organizations and following to the extent practical the process established with the 2012 revision of 19770-1.

2) To complete publication of the 19770-8 Guidelines for Mapping of industry SAM practices, and to establish and overall structure or approach to be used in the creation of such mappings e.g. to allow mappings to be submitted as PAS documents (2015/05 – Permission given for NWI ballot);

3) To create guidance on how implementations of the 19770 process standards are integrated with implementations of the ISO/IEC 9000, ISO/IEC 20000, and ISO/IEC 27000 families of standards and ISO 55000 Asset Management standards (2014/06 Joint SC7/SC40 Study Group on possible mappings between 20000 & 19770 established, 2015/05 – Study Group concluded, no final report); and

4) To enable formal assessment of SAM processes using the approaches of the developing ISO/IEC 33000 family of standards by leveraging exemplars of Process Reference Models (PRMs) and Process Assessment Models (PAMs) that are created for the new common MSS approach.
A.3 Information Structure Standards

The work plan items in the information structure standards area are:

1) To create several revisions of the 19770-2 Software Identification Tag to specify additional elements as mandatory, define integration with other definitions (e.g. the Security Content Automation Protocol (SCAP)), and include additional identification information (2014/2 – NWIP for first revision now approved & parallel CD Ballot completed with Y16-N1-AB20-NV3, 2015/04 – DIS ballot approved with AP11-AC2-D1-AB25-NV0), 2015/05 – Agreed to skip FDIS, 2015/06 – forwarded for publication, 2015/10 - Published);

2) To complete publication of the 19770-3 Software Entitlement Tag and to create several revisions that cover additional entitlement types and provide additional information on their usage (2014/02 - CD2 Ballot completed with AP12-AC3-D3-AB19-NV3, 2014/06 – permission given for DIS ballot, 2015/05 – DIS ballot approved with (AP14-AC3{IN,US,UK}-D2{CA,JP}-AB21-NV1, 2016/03 - FDIS ballot approved with AP21{18P,3O}-AC2{FR,JP}-D1{CA}-AB18-DNV1, 2016/04 - Published);

3) To create new standards for additional tag types, or additional entity definitions in existing tag types, to contain information related to:
   a. Distribution media and storage devices - including media identifiers and types, creation dates, checksums etc. (2015/05 – can now optionally be included in 19770-2 edition 2 definition);
   b. Usage and support documentation - including URIs to access to documentation for the software referenced in the ID tag, as defined in ISO/IEC 26514 and elsewhere;
   c. Support resources and access points to those resources - including URIs to knowledge bases, support communities etc. (2015/05 – can now optionally be included in 19770-2 edition 2 definition);
   d. Product security, including links to vulnerability reporting procedures and facilities (may be a joint activity project in SC 27);
   e. Automated tracking & identification of patches related to vulnerabilities of a software product (2015/05 – now within the scope of 19770-2 edition 2);
   f. Related platform and interface hardware - including authoritative platform taxonomy, Virtual Machine (VM) configuration and relationships;
   g. Asset management for mobile and embedded devices, including those with user installable software;
   h. Measurement of license requirements for software which has hardware related license metrics (for example with license metrics which require tracking of CPU details) within virtualized and Infrastructure as a Service (IaaS) cloud-based servers (2015/05 – now within the scope of 19770-3); and
   i. Measurement of consumption against entitlement for software products with time-varying resource utilization metrics (e.g. not defined by installation count) (2014/06 - now going forward as 19770-4, 2015/03 - NWI Ballot closed with 7 NB active participation, 2 comments on WD).
4) To complete processing of the initial 19770-7 Tag Management TR, and to create additional revisions of the TR to support the additional tag types in 3) above (2015/05 – request made to cancel existing project, may be restarted under new procedures);

5) To create guidance for the use of the contents of 19770-2 information structures for use in specific vertical markets and specific technology areas such as cyber security etc. (2014/6 - now going forward as TR 19770-22);

6) To create audit guidelines and compliance requirements for the information described above; and

7) To create usage scenarios for the information described above to guide the creation of a new class of SAM tools.

A.4 Overview Standards

The work plan items in the additional overview standards area are:

1) To complete publication of the 19770-5 Overview and Vocabulary standard, obtain ISO approval for free distribution of the standard, and to create frequent additional revisions as the work described above proceeds (2014/03 19770-5:2013 published and made freely available);

2) To produce frequent revisions to the 19770-5 standard to track the evolution of the WG21 programme of work (new item added in 2014/10) (2015/02 – FDIS ballot on revision begun, 2015/05 – FDIS ballot approved with AP14-AC4-D1-AB17-NVO, 2015/08 – 19770-5:2015 published and made freely available); and

3) To provide additional guidance on the holistic use of the 19770 family of standards.
Annex B Communications Plan

This annex defines the Communications Plan for WG21. The following are the items that are necessary to achieve the communications tactical items listed in section 9, of the main body of this strategic plan.

The items are:

1) Utilize the web presence at 19770.org, and promote trade press articles and conference presentations on SAM and other applications for the definitions in the WG21 portfolio;
2) Co-locate WG21 interim meetings with important industry conferences at which WG21 liaison organizations have a significant presence (reference the colocation of the 2012 WG21 interim meeting with the IAITAM Annual Conference and Exposition (ACE));
3) Utilize the good-will of industry based websites currently within the IT industry;
4) Establish a formal routine by which press releases are passed to the wider community for any major announcements (pointing back to the ISO19770.org website)
5) Ensure the above-mentioned routine avails of social media, including Twitter, Facebook and LinkedIn.
Annex C Market Analysis

TBD
REVISION HISTORY

1. Original (26th May, 2011) Outline of document proposed @ Mumbai meeting;
2. Rev 1 (7th February, 2012) First complete version for internal review;
3. Rev 2 (14th February, 2012) Incorporated changes from officer review, and distributed for review & discussion @ WG21 telecon on March 22, 2012;
5. Rev 4 (19th April 2012) Incorporating changes suggested by WG21 Chair.
6. Rev 5 (23rd May 2012) Incorporating changes made at the WG21 meeting on Jeju Island, Korea.
7. Rev 6 (5th October 2012) Restructured to match the SC 7 WG Strategic Plan Outline & added much material in the context, vision, and current status sections.
8. Rev 7 (12th October 2012) Changes agreed @ Palm Springs meeting.
9. Rev 8 (16th April 2013) Major restructuring to match the format defined in N5566, replaced “programme of work” by “portfolio”, completely new text in sections 1, 4.2, 6.2, 9, 10 and the annexes.
10. Rev 8.1 (23rd April 2013) Minor typo correction and format fixes. Additional item added in 10.2.2. Added 9.1 (that’s not in the format) to link the closely-related text that’s separated between 6.2, 9 and Annex A.
12. Rev 9.0 (23rd August 2013) Updates to support changes to WG21 name and terms of reference, plus projects enabled by Montreal resolutions, including new WG21 portfolio figure.
13. Rev 9.1 (3rd October, 2013) Included r1 figure with reference to 19770-6, updated references to 19770-11 & 19770-4, updated mobile to be “mobile and embedded”, qualified usage tags as being for time-varying license metrics’
15. Rev 9.3 (29th July, 2014) Included 2014r3 family figure, updated Convenor references, added ballot results for 19770-2 revision & 19770-3 In 5 year plan.
16. Rev 9.4 (30th October, 2014) Updated the SC7 Study group on “Emerging SAM Requirements” as completed, include reference to the new SC7/SC40 study group, included item on frequent 19770-5 revisions.
17. Rev 9.5 (13th April, 2015), updated Fig 1, included 19770-1 MSS in portfolio, updated status on 19770-1, -2, -4 & -5.
18. Rev 9.6 (11th August, 2015) Updated Fig 1, updated current status & liaisons, added orgs shipping -2 tags, updated status on 19770-1,-2,-3,-4, -5, -7 & -8.
19. Rev 9.7 (5th May, 2016) Updated Fig 1, add SAMAC as an approved liaison and removed note about rejected ones, listed 19770-2 Ed 2 and 19770-3 as published, added result of 19770-1 CD and 19770-3 FDIS ballots.